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January 2020

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Abbreviations and acronyms

ACP	African, Caribbean, and Pacific Group of States
ACFTA	ASEAN-China Free Trade Agreement
AEC	ASEAN Economic Community
ASEAN	Association of South East Asian Nation
ATIGA	ASEAN Trade in Goods Agreement
CDP	Committee for Development Policy
CP-TPP	Comprehensive and Progressive Trans-Pacific Partnership
CRO	Committee on Rules of Origin
DFQF	Duty-Free Quota-Free
EBA	Everything-But-Arms
EU	European Union
EVI	Economic Vulnerability Index
FTA	Free Trade Agreement/Area
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GSP	Generalized System of Preferences
HAI	Human Asset Index
IMS	Information Management System
IPR	Intellectual Property Rights
ISDS	Investor-State Dispute Settlement
LDC	Least Developed Countries
MFN	Most Favoured Nation
MOC	Ministry of Commerce
MSME	Micro Small and Medium Enterprise
RCEP	Regional Economic Comprehensive Partnership Agreement
ROO	Rules of Origin
SEZs	Special Economic Zones
SPS	Sanitary and Phytosanitary
TPP	Trans-Pacific Partnership
RTAs	Regional Trade Agreements
S&D	Special and Differential Treatment
WTO	World Trade Organization

Fiscal Year: October 1 to September 30, effective 2018. The first FY with new definition is October 1, 2018 to September 30, 2019. Previously, October 1 to September 30, with April 1, 2017 to March 31, 2018 being the last FY with old definition.

Exchange Rates: 1 USD = 1,484.1 kyat (10 January 2020)
1 EURO = 1,646.8 kyat (10 January 2020)
Source: Central Bank of Myanmar

The employment effects of trade policy reform in Myanmar

Abstract

This paper investigates employment responses to trade liberalisation in a developing economy, Myanmar. Using data from the 2014 Census and the 2017, labour force survey and previous surveys contained in Myanmar Statistical Yearbook, 2017, we find that trade liberalization did not affect the relative size of industry sectors in terms of employment. The OLS results finds support for the theoretical predictions of differential responses to trade reforms between sectors. Conversely, while empirical support is found for tariff reduction in influencing sector level employment, the tariff predictors are weaker overall than the sector productivity and competitiveness (in export market) predictors—implying that trade policy reforms need to be correctly tailored to raising productivity of labour force and sector competitiveness if their impact on employment is to be effectively realised.

JEL Code: E24, F13, F14

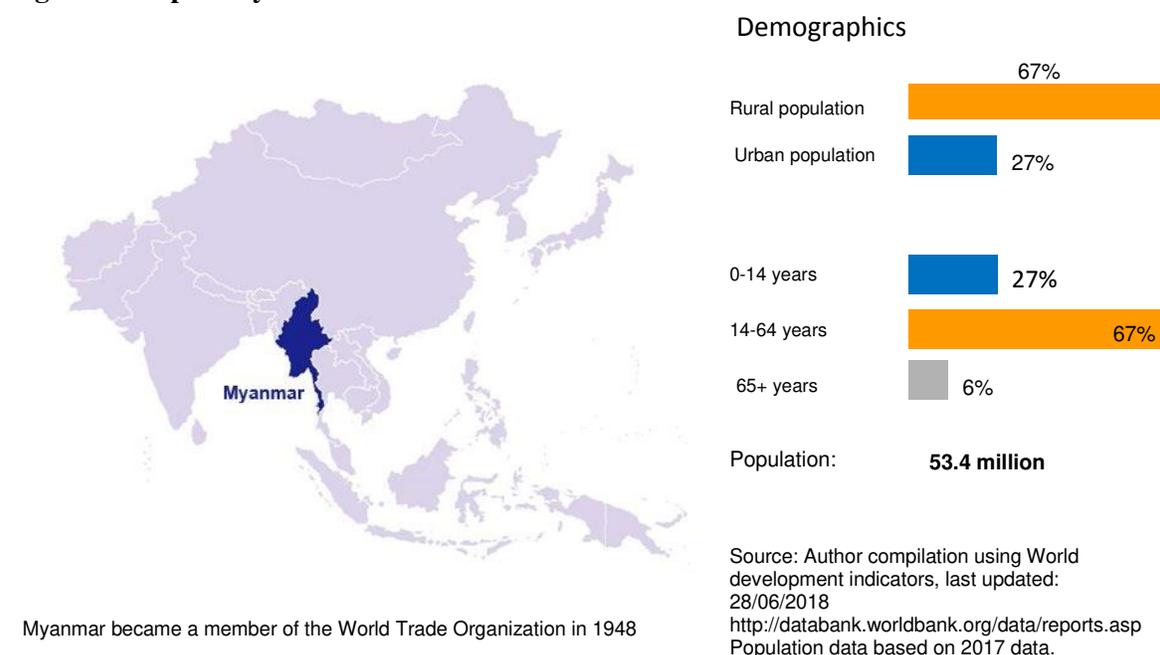
Key words: ASEAN, employment, international trade, trade policy, revealed comparative advantage, Asia Pacific, Myanmar

1 Introduction

Despite decades of economic isolation, Myanmar, has over the past few years emerged as one of the most progressive economies in South East Asia with reasonably low level of unemployment and poverty. Unemployment rate declined from 4 percent in 2014 to 0.8 percent in 2018 and the youth unemployment stands at about 2.0 percent, one of the lowest in South East Asia. Since 2011, Myanmar has embarked on a wide-ranging reforms in its continued quest to reintegrate into the global economy and attract foreign direct investment. This reform effort is assumed to have created many new jobs in the formal sector. The unsettling observation, however is that, employment is still heavily reliant on agriculture and the informal sector of the economy. And, with vulnerable employment estimated at 60 per cent of the labour force in 2019, fundamental questions remain about the influence of trade policies on labour markets in developing countries. This paper investigates employment responses to trade liberalisation in Myanmar.

Myanmar Myanmar is a least developed country in Southeas Asia, with a unique history and heritage. Figure 1 shows Myanmar's proximity to the world's fastest growing and dynamic economies (India and Bangladesh to the west, Thailand to the east and China to the north), which affords it a unique economic opportunities especially in trade and investment—supported by a young labour force and abundant natural resources.

Figure 1. Map of Myanmar



While past economic sanctions isolated Myanmar from a large part of the rest of the world, since 2011, Myanmar has embarked on a wide-ranging reforms, which has paved the way for Myanmar's reintegration into the global economy. These reforms have, over the last 15 years, led to the restoration of macroeconomic stability and high economic

growth of 4-6% p.a over the last seven years, with growth estimated at 6 percent in 2019 and 5.8 percent in 2020/21. The country is set to enter the second decade of the 21st century with a more diversified economy and holding a reasonable foreign reserves, with inflation below 10 percent. Exports rose from US\$9.1 billion in 2011 to US\$13.88 billion in 2017. What is not yet clear is whether this remarkable growth in exports has translated into more employment (or reduction in level of unemployment). Recent studies in developing countries have focused on labor market adjustments to changes in trade policy (Erten et al., 2019; McMillan and McCaig, 2019). Our most pressing concern in this paper is to establish a linkage between trade policies and employment, measured in terms of quantity of jobs, wages earned or a combination of both.

From a theoretical standpoint, the impact of trade policy (measure by changes in tariff) on employment, or unemployment is ambiguous. The existing studies on the impact of trade liberalisation on unemployment rate based on both single or multiple countries have produced mixed results. There has been no consensus concerning whether an increase in trade openness will lead to either a higher or lower aggregate unemployment rate. A general equilibrium framework within the Ricardian and Heckscher Ohlin trade models reinforces the idea that trade reforms should have no impact on employment. This is the case since full employment is generally assumed. As Harrigan (2011) points out, economic models of the effects of trade on labor market outcomes have relied almost entirely on the assumption of full employment. Yet, unemployment is a fact of life, and net job creation is often a stated goal of trade policy measures.

In a well functioning labour market, one would expect small wage changes and larger employment shifts between sectors since wages of similar activities should equalise across sectors but changes in output prices should lead to reallocation of labour towards the higher priced goods. In a world where labour mobility is not perfect, however, moving towards international prices via trade reform as HO-Stolper-Samuelson theorem makes it clear, will have differential impacts on wages, across sectors of the economy. To the extent that developing countries have a comparative advantage in labour-intensive goods, trade liberalisation will lead to more production of labour intensive goods. The shift towards greater production of labour-intensive goods will inturn increase the demand for labour and raise wages. A reduction in the capital-labour ration is experienced across all sectors, driving reallocation of output towards labour-intensive goods, meaning that trade reform would lead to higher wages, a reduction in the relative returns to capital, and a demand shifts to more labour intensive sectors.

While theoretical predictions are readily understood, empirical findings regarding the role of international trade and trade policy in employment outcomes are inconclusive. In some studies in developing countries (e.g. Fu and Balasubramanyam 2004, Sen 2009) international trade is found to be associated with employment. In others, e.g. Greenaway *et al.* (1999) especially where longitudinal industry-level data is used, international trade is found to be negatively correlated with employment. McCaig and Pavcnik (2018) find a decrease in informal employment within South African industries in response to changes in trade policy, but unlike most studies including ours, the trade policy changes are a reduction in tariffs in a foreign market (i.e., reduced exporting costs). Turrini (2002) found international trade to have an insignificant impact on employment. In a study in Vietnam using an unbalanced panel dataset for the 2010-2015 period, Ha and Tran (2017) find a

positive linkage between international trade and firm level employment when ordinary least square is used, and a negative relationship between international trade and firm level employment when a fixed-effect quantile approach is used, for firms in the low employment percentile but a positive relationship with firms in the high employment percentile. This lack of consensus regarding the link between international trade and aggregate level employment means that country specific studies are invaluable.

The study investigates the impact of trade policies on unemployment in Myanmar, specifically:

- (i) the extent to which tariff reductions on imports affect sector level employment in Myanmar;
- (ii) identify the key drivers of sector level employment in Myanmar; and
- (iii) the policy implications for international trade in the context of unemployment reduction in Myanmar.

The remainder of the paper is organised as follows. Section 2 gives a brief account of the trade policy developments in Myanmar. Section 3 examines the development in foreign trade. Section 4 examines the relationships between trade policy and sector level employment, including the theoretical and analytical framework; and Section 5 concludes.

2 Overview of trade policy reforms in Myanmar, 1960-2019

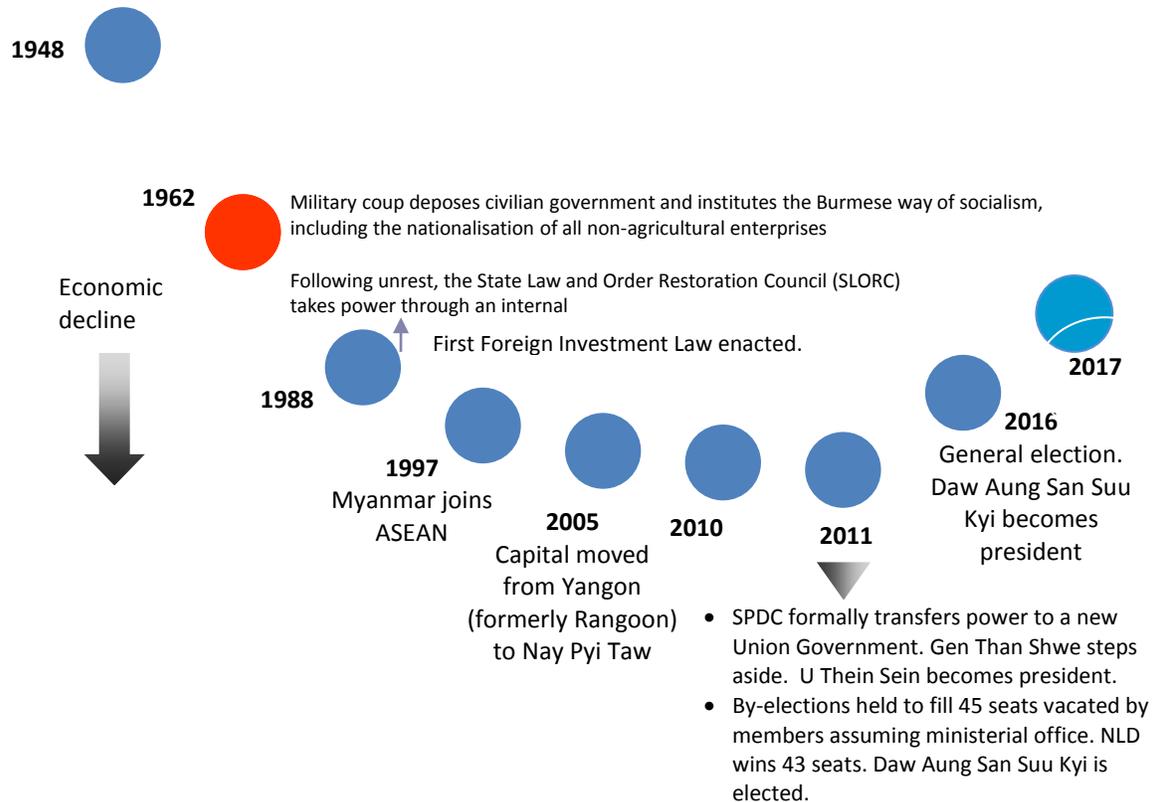
2.1 The political economy context

In 2013, Myanmar was reunited to the global community following the lifting of the international sanction that held back the economy for decades. Prior to 1998, the development strategies of Burma underwent big swings, from quasi-market based economy to state-controlled, socialist, centrally planned economic system. The Military regime of General Ne Win that deposed civilian government in 1962 and ruled until 1988 instituted socialism, including the nationalisation of all non-agricultural enterprise. Figure 2 highlights Myanmar's post independence history. In 1988, Burma now rebranded (renamed) 'Myanmar' after General Ne Win, the socialist who had been in power since 1962 stepped down, took the first step towards major economic reforms by moving the country from a centrally planned economic system to market-based economy.

One important step in that direction was the introduction of the Foreign Investment Law (on 30 November 1988), which allowed foreign direct investment (prohibited before then), and also encouraged private sector development. However, with severe economic sanctions imposed by key trading partners including the United States and the European Union still in place exacerbated by gross abuse of human rights and brutal repression, the 1980s-1990s reforms achieved very little, if any in terms of economic growth. While in the 1990s the other economies in the region witnessed the 'Asian Miracle' (grew in multiples), Myanmar's economy worsened with widespread poverty. While economic growth averaged 4.2% for the rest of Asia during the twenty years following 1990,

Myanmar's per capita GDP grew by a dismal 2.7% per annum. The economic reforms in the rest of Asia were advancing rapidly and producing results in terms of investment and commercial opportunities, while in Myanmar capital continued to leave the country as its exports continued shrinking in volume and the gains from trade agreements diminishing in quantum.

Figure 2. Myanmar's post-independence history



The first generation of reforms (1990s–2010) seems to have benefited instead, the established interests – the military and their supporters in the main national industries. From 1988 until 2011, Myanmar was ruled by the State Law and Order Restoration Council (SLORC), led by General U Than Shwe. The transition to nominally civilian rule under a new Constitution was a significant step which paved the way for the on-going sequence of rapid and far-reaching political and economic reforms that have unleashed tremendous changes in the political and economic landscape.

The current Constitution of Myanmar (the third since 1947)¹ was promulgated in September 2008, with the legislative power vested in two houses of Parliament

¹The first Constitution was adopted in 1947, just before Myanmar became an independent sovereign State in 1948. The second Constitution, approved in 1974, was suspended in 1988. The ten priority areas identified in the FESR 2012-15 are: fiscal and tax reforms; monetary and financial reforms; liberalization of trade and investment; private sector investment; health and education; security

(*Pyidaungsu Hluttaw*), that is, *Amyotha Hluttaw* (House of Nationalities) with 224-seat comprising 168 directly elected members and 56 appointed by the Military; and *Pyithu Hluttaw* (House of Representatives) with 440-seat: 330 directly elected and 110 appointed by the Military. Parliament is empowered to adopt laws set out in Schedule I of the Union Legislative List. Members of the Parliament have a term of five years.

The Government of the military-backed Union Solidarity and Development Party (USDP), led by President Thein Sein took office on 30 March 2011 following the November 2010 general elections, promising to conduct drastic economic reforms and open up the economy. A by-election held in April 2012, in which the National League for Democracy won 43 of 45 vacant seats, including an elected seat for Daw Aung Suu Kyi, strengthened momentum for reforms. In late-2012, a Framework for Economic and Social Reforms (FESR) was adopted, which set out ten priority reform areas for the interim period of 2012-15.² This has been followed by measures aimed at stimulating economic growth, trade and investment, accompanied by diplomatic efforts to reengage with the international community. Among the policy priorities, the Government has focused on two areas: import opening and investment liberalization, and has since then, issued, revised or amended several trade-related laws to liberalize trade and investment regime. Other measures have focused on simplifying trade procedure, unifying the exchange rate, and promoting transparency. Government recognizes that further reforms are needed to promote competition, improve the business environment in Myanmar and encourage the development of the private sector and attract more foreign investment.

Alongside economic reforms, the country has since 2011 taken significant steps in the democratic reform process that have been welcomed by the international community, reflected in the lifting of international sanctions. It became clear; the GoM was committed to reforms. The GoM has developed three major policy frameworks—the Framework for Economic and Social Reform (FESR), the Nay Pyi Taw Accord (NPTA) and the National Comprehensive Development Plan (NCDP)—which sets forth ambitious goals to solidify the country’s democratic transition and align it to international standards and principles. The NCDP—implemented through the Five-Year Annual and Sectoral Plans, sets out priorities and reform agendas for the next 20 years.

The peaceful handing over of power in 2016 (by USDP) to a semi-civilian administration the National League for Democracy led by Nobel Laureate Aung San Suu Kyi gave new impetus to reform. Since taking office in 2016, the National League for Democracy has increased the pace of economic reforms, including amending investment laws and introducing a Myanmar Companies Law to boost confidence among foreign investors. A new ministry to handle investment related matter has been created, together with the Myanmar Sustainable Development Plan (MSDP), a road map to promote equal development in social and economic sectors.

and agriculture; governance and transparency; mobile phone and internet; infrastructure; and effective and efficient Government.

While steady economic progress can be attributed to relative peace in the country, continued recovery has been sustained through a strong commitment to maintaining macroeconomic stability, implementing liberalization policies, promoting trade and investment, and private sector activities. Reforms have been directed towards elimination of export and import licensing requirements, considering that more flexible import arrangements is needed to limit currency appreciation pressures and provide broader benefits to Myanmar producers and consumers. Government has been promoting exports by exploring new export markets, and encouraging value-addition. The import policy is intended at boosting imports of capital goods, which government considers as essential for the economy. Import restrictions have been reduced on construction materials, hygienic materials for people's health, and goods that support export-promotion activities.

On trade facilitation, enhancing transparency seems to be Government's top priority. The Ministry of Commerce has set up two websites through which businesses can access trade information.² The Ministry of Commerce (MoC) has continued to work closely with the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI) and other private sector associations, and to convey trade information and notification to those organizations on regular basis. The MoC also publishes a weekly *Commerce Journal*, and a monthly *Trade News* booklet, providing trade-related information.

On investment, the 2012 Foreign Investment Law and the 2013 Myanmar Citizens Investment Law have been merged and upgraded to provide a single investment framework ("Investment Law"). Government has reduced red tape and time taken to register businesses by setting up an online registration system for domestic and foreign companies. The Myanmar Investment Promotion Plan (MIPP) 2016/17–2035/36 aims at attracting over US\$200 billion (305.7 trillion kyats) in investment from businesses over the next 20 years. MIPP projects are expected to receive US\$8.5 billion between 2021 and 2026, US\$12.3 billion from 2026 to 2031 and US\$17.6 billion from 2031 to 2036. In addition, Myanmar established a project bank to create a centralized and publicly accessible database for effective coordination across government ministries and departments, and ensure prioritization of proposals that are in line with the MSDP.

On 21 October 2019, at the Myanmar Investment Conference in Tokyo, Myanmar's State Counselor Daw Aung San Suu Kyi reiterated her government commitment to reforms. She said her government has been both aggressive and strategic in liberalizing various key economic sectors—citing the recent reform of the insurance sector allowing 100-percent foreign-owned life insurance companies to operate in Myanmar. She unveiled government plan to introduce a new Land and Property Bank supposed to expedite processes that involve the lease of state-owned land and properties through centralized electronic means. "Myanmar is in the process of transforming an opaque, non-competitive, connections-based economy into a larger, more transparent, more competitive, rules-based economy," (Daw Aung San Suu Kyi).

²They are: www.commerce.gov.mm and www.myanmartradenet.com.mm. Businesses may apply for import/export licences from www.myanmartradenet.com.mm.

Myanmar's ambitious reform program allowed the country to rise out of the bottom 20 in the ease of doing business global ranking. The World Bank Ease of Doing Business report 2020 ranked Myanmar 165th out of 190 countries. Myanmar scores relatively well in the area of regulatory quality and rule of law categories, including creating an easier environment for starting a business, dealing with construction permits, registering property, protecting minority investors and enforcing contracts—featuring among the top-20 improvers, worldwide in the World Bank's Doing Business 2020 report, alongside China, Bangladesh and India.³

Myanmar made starting a business easier by introducing an online platform for company registration and by reducing incorporation fees. It also strengthened construction quality control by imposing stricter qualification requirements for architects and engineers and making building permit requirements available online. It made property registration faster by streamlining deed registration and appraisal. The publication of a fee schedule, official service standards, and statistics on property transfers for the previous calendar year, according to authority, has improved the quality of Myanmar's land administration system.

In addition, Myanmar has improved its water and sanitation infrastructure and made the process of obtaining building permits more efficient by introducing service quality standards. Myanmar also strengthened minority investor protections by requiring greater disclosure of transactions with interested parties, increasing director liability and requiring greater corporate transparency.

Myanmar had worse score than the regional average in the control of corruption category. Based on the Corruption Perceptions Index, Myanmar ranked 130th out of 180 countries in 2017—an improvement from its 172nd position out of 176 countries worldwide in 2012.⁵ The Government has signed the UN Convention against Corruption. In order to implement this Convention, an anti-corruption law was enacted on 17 September 2013.

2.2 Institutional context

The main tenet of Myanmar's trade policy as described by authorities is to facilitate exports and imports, promote value-addition from primary commodities to increase value-added content of exports, and promote international trade. Some pieces of economic legislation are outdated—existed since pre-independence (i.e pre-1948) period, and as the country undergoes economic reforms, a number of trade and investment related laws had to be revised, amended or replaced. For example, the Control of

³ The World Bank monitors 12 areas of business regulation. Ten of these areas—starting a business, dealing with construction permits, accessing electricity, registering property, accessing credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency—are included in the ease of doing business score and ease of doing business ranking

Import/Export Temporary Law (1947) was replaced on 7 September 2012 by the Export and Import Law. Other trade related laws that have been introduced include the new Foreign Investment Law, and Foreign Exchange and Management Law (2012) (Table A2.1), competition law, a comprehensive IP law, a standardization law, a metrology law, as well as consumer protection law, and an SMEs law and a new Telecommunications Law to enable the liberalization of the telecommunications sector.

Along side liberalisation, government has pursued privatisation of state enterprises. The first Privatization Commission was established in 1995, and according to Myanmar's, authorities upto 772 entities were privatized (under this Commission) between 1995 and 2011, yielding K 660.2 billion. Privatization process has taken various forms, including public-private-partnership, share system, franchise, joint venture, and sale of the enterprise. A new Privatization Commission, headed by a Vice President (established after 2011) has adopted a new approach relying on the "open tender" method; use the private-public-partnership method more; and focus more on underperforming SEEs and encourages foreign participation in the privatization process (which was not the case before 2011).

Trade-related domestic legislation are formulated in line with the WTO Agreements. In principle, any domestic legislation introduced must be consistent with WTO Agreements and it is the duty of the Ministry of Commerce and Office of the Attorney General to ensure the consistency and coherence between domestic legislation and WTO Agreements.

The responsibility of policy formulation in the international trade domains lies with the Ministry of National Planning and Economic Development (MNPED), in close consultation with the President's Office, the Ministries of Commerce, and of Finance, and other trade-related ministries.⁴ The Ministry of Commerce (MOC) is in charge of policy coordination and implementation for all trade-related matters, and issues export/import licenses. The Export Import Coordinating Committee (EICC) under the Ministry of Commerce is responsible for monitoring all export and import activities. The Trade Promotion Department (established in April 2013, under the Ministry of Commerce) is responsible for export promotion. The department works to facilitate imports through supporting activities of the private sector and SMEs, setting up trade financing schemes, liaising with international organizations for market expansion, encouraging the development of Special Economic Zones (SEZs), and promoting value-added product exports.

Decisions on tariffs are made by the Ministry of Finance in consultation with the Ministry of Commerce and other concerned ministries. Various departments under the Ministry of Commerce meet on regular basis to coordinate trade policies and practices, and whenever necessary, with representatives from the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI). Information from government sources

⁴ There are 36 ministries, many of which have trade-related functions. President Office online information. Viewed at: <http://www.president-office.gov.mm/cabinet/central-offices> (in Myanmar language only) [01/07/2013].

shows that the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI), national umbrella organization for the businesses is invited to represent the private sector in meetings involving tariff and other trade policy discussions. Tariffs are approved by the Cabinet before they are adopted by the Parliament.

In addition, there are statutory bodies (Table 1), created to facilitate economic reform, improve the business environment, and promote competition. Ministries may be members of these commissions, and ministers may serve as chairperson or secretary of specific commissions. A number of ministries and agencies are responsible for the management of trade negotiations and implementation of different trade agreements. For example, trade negotiating and implementing authorities are located in two different ministries, i.e. MoC on the WTO, and MNPED on ASEAN. A national inter-ministerial committee on trade policy formulation and implementation seems not to be in place.

Table 1. Statutory bodies

Commission	Chair	Main responsibility
Planning Commission	President	Participating in the reform for the "equitable and inclusive" growth of the country, where "equitable growth" means "balanced and proportional development among states and regions", while "inclusive growth" means "broad-based, shared, and pro-poor growth for the entire population". Monitoring the implementation of the Framework for Economic and Social Reforms (FESR).
Finance Commission	President	Reforming public financial management, allocating financial resources, and improving financial situation of the country.
Privatization Commission	Vice President	Privatization of state entities, to improve the economy of the State through developing the private sector, and helping to transform the economy to market oriented.
Myanmar Investment Commission (MIC)	Minister from the President Office	Foreign and domestic investment.

2.3 Trade agreements, tariffs and trends

Liberalization measures are examined under the three policy tracks—multilateral, regional and unilateral measures.

2.3.1 Multilateral agreements

Myanmar is a founding member of GATT. In 1994, Myanmar ratified the Marrakech Agreement to become a founding member of the World Trade Organization (WTO). Myanmar has bound 18.5% of its tariff lines (all tariff lines under WTO agriculture), with the simple average final bound rate at 87.2%. Myanmar undertook specific commitments under the GATS in tourism and travel-related services, although it did not list any exemption to the principle of MFN treatment in its GATS commitment.

Myanmar has been participating in the Doha Round, with the hope that 100% duty-free, quota-free market access would be granted to LDCs by the end of the Round. The Government desires to take advantage of the special and differential treatment provisions

and technical assistance offered to LDCs, to meet the country's development objectives. Since 2011, trade policy reform measures have been undertaken in line with WTO commitments. Trade opening and facilitation measures have been adopted, in particular the import/export licensing requirements on a number of products has been lifted.

Myanmar has not been party to any dispute settlement proceeding at the WTO, as complainant, respondent, or third party. At end-September 2013, Myanmar had 49 notifications outstanding in the WTO Central Registry of Notifications.¹¹ Many of its notifications are old, and the relatively recent notifications were sent together with other ASEAN members (Table 2.2).

As an LDC, Myanmar is a beneficiary of a number of GSP schemes, including those accorded by the EU, Australia, Belarus, Japan, New Zealand, the Russian Federation, Switzerland, and Turkey. The EU reinstated GSP treatment for Myanmar in July 2013, granting retrospective benefits to Myanmar's.

Tariff binding and applied tariff structure

Myanmar has bound 18.5% of its tariff lines at the HS 8-digit level. All agricultural lines (by WTO definition), and 5.7% of non-agricultural lines are bound. The 2013 tariff schedule comprised 9,558 lines at the HS 8-digit level, with average bound tariff rate of 87.2% (Table 2). Up to 418 "statistical lines" at the HS 9-digit and 10-digit levels were recorded in 2013.⁵ According to World Bank WITS database, there were 9,821 tariffs lines at the HS 8-digit level in 2015. The tariff is based on the HS2012 nomenclature. Final bound tariffs range from 0% for electrical machinery and transport equipment to 550% for chemicals, beverages and tobacco, and cereals and cereal preparations. Myanmar's tariff reduction schedule shows that the final bound tariff rates have been maintained since 1995.

The applied MFN tariff in Myanmar comprises 15 bands ranging from 0% to 40%. This has remained unchanged since 1996. The large number of bands renders the tariff relatively complex. All tariffs are applied *ad valorem*.

The WTO Secretariat calculations indicate 32 tariff lines where the MFN applied tariff exceeds the bound rate. These lines pertain to, among other products, hard zinc spelter and zinc products, agricultural machinery and parts, and motor vehicle part and accessories. However, government maintains that the applied MFN rate exceeds the bound rate on only two tariff lines: 2620.1900.00 for "other" zinc products and 8708.9910.00 for certain class of vehicles.

Duty-free rates apply to, *inter alia*, animals and animal products; fruit, vegetables and plants; cereals and preparations; and fish and fishery products. The highest bands (i.e. 30% and 40%) apply mainly to alcoholic beverages, tobacco products, natural or cultured pearls and other precious stones, and motor vehicles and other transport equipment (Table 3). The highest rates are assigned to "luxury" goods. These tariff rates are expected

⁵ These 418 lines are used only for internal statistical purposes.

to be converted to excise duty regime for some of the goods when a system of excise tax becomes fully functional in Myanmar.

Table 2. Tariff structure of Myanmar, 1996, 2008, and 2013

	MFN applied			
	1996	2008	2013	2015
Bound tariff lines (% of all tariff lines)	18.5	--
Simple average applied rate	5.7	6.1	5.5	5.6
WTO agricultural products	8.5	8.9	8.9	8.9
WTO non-agricultural products	5.2	5.7	5.0	
Domestic tariff peaks (% of all tariff lines) ^a	5.5	7.4	5.3	2.5
International tariff peaks (% of all tariff lines) ^b	5.5	7.4	5.3	2.5
Overall standard deviation of tariff rates	6.5	7.7	6.7	3.4
Coefficient of variation of tariff rates	1.1	1.3	1.2	0.6
Tariff quotas (% of all tariff lines)	0.0	0.0	0.0	0.0
Duty-free tariff lines (% of all tariff lines)	3.6	3.4	4.0	4.2
Non- <i>ad valorem</i> tariffs (% of all tariff lines)	0.0	0.0	0.0	0.0
Nuisance applied rates (% of all tariff lines) ^c	46.9	46.4	46.9	14.1
Number of lines	5,798	10,689	9,558	9,821
<i>Ad valorem</i>	5,587	10,323	9,178	9,405
Duty free	211	366	380	416
Non- <i>ad valorem</i>	0.0	0.0	0.0	0.0

Source: Author's calculations (2015) based on World Bank's WITS database, and WTO Secretariat calculations (1996, 2008 and 2013), based on data provided by the authorities of Myanmar

Notes: ... data not available

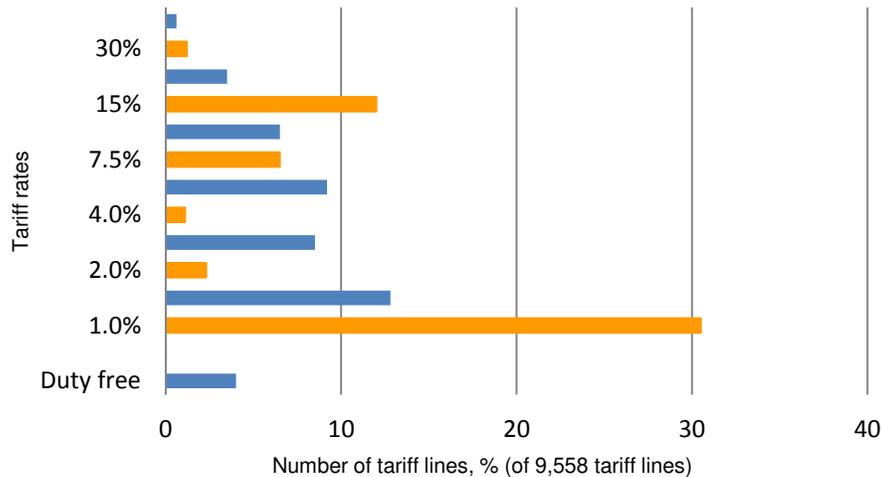
a Domestic tariff peaks are defined as those exceeding three times the overall simple average applied rate

b International tariff peaks are defined as those exceeding 15%.

c Nuisance rates are those greater than zero, but less than or equal to 2%

Calculations on averages are based on national tariff line level (10-digit in 1996, and 8-digit in 2008 and 2013). The 1996, 2008, and 2013 tariffs are, respectively, based on HS1996, HS2002 and HS2012 nomenclatures.

Distribution of MFN tariff rates, 2013



Tariff rates	Duty free	0.1%	1.0%	1.5%	2.0%	3.0%	4.0%	5.0%	7.5%	10%	15%	20%	30%
Tariff lines (%)	4.0	0.07	30.5	12.8	2.3	8.5	1.1	9.2	6.5	6.5	12	3.5	1.2

Note: Figures in parentheses denote the share of total lines. The 2013 tariff schedule consists of 9,558 tariff lines.

Source: WTO Secretariat calculations, based on data provided by the authorities of Myanmar.

Since 2008, the dispersion of tariff rates has decreased. The proportion of tariff lines involving domestic and international peaks has also declined, with the overall standard

deviation of the tariff rates dropping from 7.7% in 2008 to 6.7% in 2013 (Table 3). This is a significant development because high dispersion of tariff rates across product lines is a potential source of efficiency losses. The greater the differentials in tariff rates, especially within groups of similar and thus substitutable products, the higher the chance that consumer and producer decisions are distorted by the tariff structure.

Table 3. Myanmar's tariff summary, 2013

	Number of lines	Average (%)	Range (%)	Std dev	Nuisance ⁸	Duty free
Total	9,558	5.5	0-40	6.7	46.9	4.0
Agricultural products (HS 01-24)	1,594	9.0	0-40	7.6	17.8	10.4
Industrial products (HS 25-97)	7,964	4.8	0-40	6.3	52.7	2.7
WTO agriculture	1,298	8.9	0-40	8.3	23.4	9.2
Animals and products thereof	150	9.4	0-15	6.9	1.3	33.3
Dairy products	38	3.3	3-5	0.7	0.0	0.0
Fruit, vegetables and plants	348	10.9	0-15	6.6	12.6	10.9
Coffee and tea	42	14.3	5-20	4.3	0.0	0.0
Cereals and preparations	185	9.9	0-15	6.3	5.9	14.6
Oil seeds, fats and oils & their products	198	2.1	0-15	2.2	73.2	1.0
Sugars and confectionary	32	6.8	0.5-20	7.5	50.0	0.0
Beverages, spirits and tobacco	106	24.3	15-40	10.6	0.0	0.0
Cotton	5.0	0.8	0-1	0.4	80.0	20.0
Other agricultural products n.e.s	194	3.2	0-15	2.5	42.3	0.5
WTO non-agriculture	8,260	5.0	0-40	6.2	50.6	3.2
Fish and fishery products	377	8.0	0-15	3.9	7.2	12.7
Minerals and metals	1,386	3.4	0-30	4.3	56.3	4.8
Chemicals and photographic supplies	1,327	2.4	0-20	3.6	78.7	2.4
Wood, pulp, paper and furniture	455	6.8	0-15	5.6	2.0	4.4
Textiles	802	8.9	0-20	6.3	26.9	1.0
Clothing	300	16.8	2-20	5.0	3.7	0.0
Leather, rubber, footwear, travel goods	319	4.6	0.5-20	3.8	32.6	0.0
Non-electric machinery	1,291	1.9	0-15	2.4	76.3	6.0
Electric machinery	694	4.2	1-20	5.1	66.4	0.0
Transport equipment	551	7.8	0-40	11.9	34.1	1.3
Non-agricultural articles n.e.s.	722	5.5	0-30	5.4	44.0	0.1
Petroleum	36	1.6	0.5-3	0.5	91.7	0.0

Notes: a Nuisance rates are those greater than zero, but less than or equal to 2%.

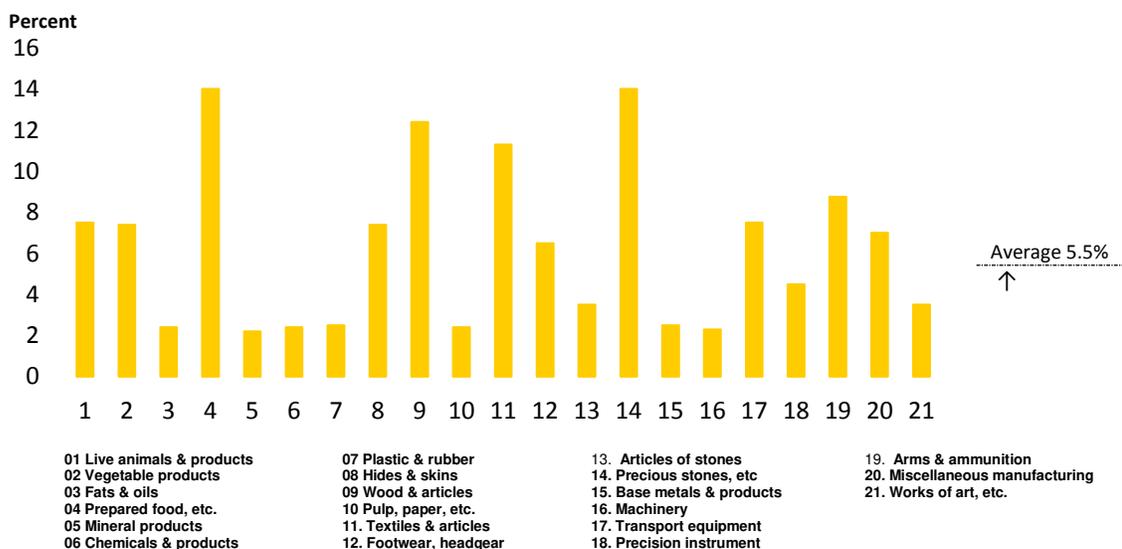
Calculations on averages are based on national tariff line level (8-digit).

Source: WTO Secretariat calculations, based on data provided by the authorities of Myanmar.

The average applied MFN tariff was 5.5% in 2013 (Figure 3), about the same as in 1996 and slightly lower than the rate in 2008. What has changed is basically the nomenclature. Almost 95% of the applied MFN tariff ranges from duty free to 15%, while the modal rate (i.e. applied to most products) is 1%. Nearly half of all tariff lines have nuisance rates (greater than zero, but below or equal to 2%). However, the difference between average applied MFN tariff and the average bound rate is huge (82 percentage points). This, and low level of tariff binding (less than 19% of the tariff lines are bound), gives the government considerable policy space whereby it raise tariffs for a range of products significantly above applied rate, thereby making the tariff quite unpredictable affairs. The WTO's report on the 2014 policy review indicates that sectoral definitions, average tariffs on agricultural products in 2013 were higher than those for non-agricultural products, with rates of 8.9% and 5%, respectively. The average tariff on agricultural products remained unchanged since 2008, while average tariff on non-agricultural

products were slightly lower than the rate in 2008. The report attributes this decline primarily to the change in nomenclature.⁶

Figure 3. Average applied MFN tariff rates, by HS section, 2013



Source: WTO Secretariat calculations, based on data provided by the authorities of Myanmar

2.3.2 Regional trade and preferential tariffs

ASEAN and ASEAN FTAs

Myanmar is one of the 10 member countries of the Association of Southeast Asian Nations (ASEAN) and participates in all intra-ASEAN agreements as well as the FTAs between the ASEAN and the outside world, including free trade agreements with Australia, New Zealand, China, India, Japan, and South Korea (Table 5). Myanmar became an ASEAN member in 1997 and joined the ASEAN free trade area in 1998, and held the chair the ASEAN in 2014. Trade with other ASEAN members accounts for about 40% of Myanmar's total imports and about 50% of its total exports. The establishment of the ASEAN Economic Community (AEC) on 31 December 2015 as part of the ASEAN Community is an important milestone in ASEAN economic integration process. AEC operates as a single market and production base in the ASEAN region, with freer flow of goods, services, skilled labour, and capital.

AEC has delivered (in principle) more open market, with intra-regional tariffs virtually eliminated and formal restrictions in services sector gradually removed; reduced trade costs through simplification of cross-border trading processes, including on customs procedures and rules of origin, harmonisation of technical regulations and mutual

⁶ Tariffs on vehicles under HS heading 87.03 were also reduced from 30-40% in 2007 to 1% in 2012

recognition arrangements; more attractive investment regime, and a more business-friendly and innovation supportive environment through the adoption of common frameworks, standards and mutual cooperation in various areas; and better connectivity in transportation and other infrastructure networks. The AEC Blueprint 2025, adopted at the 27th ASEAN Summit in Kuala Lumpur, Malaysia, provides a roadmap in the next phase of ASEAN economic integration, from 2016 to 2025.

Intra-ASEAN trade are covered by three component agreements, namely, the ASEAN Trade in Goods Agreement (ATIGA), the ASEAN Framework Agreement on Services (AFAS), and the ASEAN Comprehensive Investment Agreement (ACIA).⁷

Under the ASEAN Trade in Goods Agreement (ATIGA), imports from ASEAN member states enter Myanmar at preferential rates (Table 4). Under ATIGA 7,612 lines are duty free, 380 of these lines are also duty free under MFN (WTO, 214). Rates for 590 tariff lines have been reduced (but rates remain above zero); while rates for 1,356 lines have not been reduced (Table 4). Of these, rates reduction for 1,278 tariff lines are implemented under the AEC. Government expected customs revenue to decline following the realization of the ASEAN Economic Community (AEC). There are, however, 78 tariff lines that are curved out of reform (included in Myanmar's schedule of exemption that are not subject tariff reduction). They include poppy seed, opium, explosives, tanks, arms and ammunition, and works of art.

Under the ATIGA, ASEAN members must apply a tariff rate of 0-5% for goods originating within ASEAN, with flexibility granted to LDCs, including Myanmar (Table 4). Myanmar's average tariff under the ATIGA was 0.6% in 2012. The basic principle for granting origin status to a product is 40% regional/local-content. An ASEAN Single Window to process trade documents electronically at national and regional levels will integrate national single windows of ASEAN member countries. Myanmar has been adopting trade facilitation measures, and is preparing to start its single window system in 2015.

The ASEAN Framework Agreement on Services (AFAS), signed by the ASEAN Economic Ministers on 15 December 1995 in Bangkok, Thailand aims to enhance cooperation to improve the efficiency, competitiveness and supply of services, and liberalise further the trade in services among ASEAN Member States. The ASEAN Comprehensive Investment Agreement (ACIA) is an ASEAN's instrument design to create a free and open investment regime/environment in the context of an integrated economic community and ASEAN's response to increase global competition and enhance the attractiveness of ASEAN as a single investment destination.⁸

As an ASEAN member, Myanmar participates in ASEAN's preferential agreements with Australia and New Zealand, China, India, Japan, and the Republic of Korea (Table 5).

⁷ There are also ASEAN framework agreements on the facilitation of goods in transit (AFAGIT), and the Facilitation of Inter-State Transport (AFAFIST), among others.

⁸ ASEAN online information. Viewed at: https://asean.org/?static_post=asean-comprehensive-investment-agreement

Table 4 . Preferential tariffs, 2013

	No. of lines	Avg. (%)	Range (%)	ATIGA ^b Nuisance ^a	Duty free	AKFTA ^c			
						Avg. (%)	Range (%)	Nuisance ^a	Duty free
Total	9,558	0.6	0-10	10.3	79.6	3.7	0-40	46.9	4.0
Agricultural products 1/	1,594	0.7	0-5	2.1	82.7	5.2	0-40	17.8	10.4
Industrial products 2/	7,964	0.5	0-10	11.9	79.0	3.4	0-40	52.7	2.7
WTO agriculture	1,298	0.9	0-5	4.0	78.5	4.9	0-40	23.4	9.2
Animals, products thereof	150	0.2	0-5	0.0	96.0	3.3	0-5	1.3	33.3
Dairy products	38	1.8	0-5	0.0	42.1	3.3	3-5	0.0	0.0
Fruit, vegetables, plants	348	0.4	0-5	1.7	90.2	4.2	0-15	12.6	10.9
Coffee and tea	42	2.5	0-5	0.0	50.0	6.9	5-15	0.0	0.0
Cereals & preparations	185	2.0	0-5	1.6	58.9	5.0	0-15	5.9	14.6
Oil seeds, fats & oils	198	0.2	0-5	7.6	88.9	1.9	0-5	73.2	1.0
Sugars & confectionary	32	2.3	0-5	40.6	18.8	3.7	0.5-10	50.0	00.0
Beverages, spirits, toba	106	1.6	0-5	0.0	67.0	18.6	5-40	0.0	0.0
Cotton	5	0.2	0-1	20.0	80.0	0.8	0-1	80.0	20.0
Other agricultural prod,	194	0.6	0-5	7.2	81.4	3.0	0-5	42.3	0.5
WTO non-agric	8,260	0.5	0-10	11.2	79.8	3.5	0-40	50.6	3.2
Fish & fishery products	377	0.3	0-5	0.0	94.4	5.8	0-10	7.2	12.7
Minerals & metals	1,386	0.8	0-5	15.3	71.1	2.7	0-30	56.4	4.8
Chemicals & photographic	1,327	0.6	0-10	19.8	71.0	2.0	0-20	78.7	2.4
Wood, pulp, paper, furniture	455	0.8	0-5	3.5	73.2	3.7	0-15	2.0	4.4
Textiles	802	0.1	0-5	0.9	97.1	4.5	0-20	26.9	0.1
Clothing	300	0.0	0-0	0.0	100.0	8.3	2-20	3.7	0.0

1/ HS 01-24)

2/ HS 25-97

Myanmar, together with the other ASEAN members, has (since late-2012) been negotiating with ASEAN FTA partners (Australia, China, India, Japan, Republic of Korea, and New Zealand) a Framework for Regional Comprehensive Economic Partnership (RCEP), which is to be concluded by early 2020 for possible entry into force by 2021.⁹ The Framework covers trade in goods, trade in services, investment, and economic and technical cooperation, competition, intellectual property, dispute settlement, and other issues.¹⁰

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership' (CP-TPP) has 11 participating countries including Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.¹¹ With the proliferation of FTAs, the pattern of trade relationship has become radically more complicated as illustrated in Figure 4. Among CP-TPP member countries, only Mexico and Peru do not have any preferential arrangement with Myanmar at present. In the case of RCEP, all members have already an existing agreement or trade arrangement with Myanmar under ASEAN or DFQF. This overlapping scenario is making the assessment of the value provided by RCEP and CP-TPP difficult and complicated. In fact, the benefits of joining

⁹ Bangkok Post. Viewed at: <https://www.bangkokpost.com/business/1791659/rcep-nears-completion>

¹⁰ ASEAN online information. Viewed at: <http://www.asean.org/asean-summit/item/asean-framework-for-regional-comprehensive-economic-partnership>

¹¹ CP-TPP is a revamped version of Trans-Pacific Partnership Agreement (TPP) following the U.S. withdrawal from the TPP.

RCEP or CP-TPP or both will have to be assessed against the preferential margin, utilization rates, and applicable rules of origin under existing preferential arrangements.

Table 5. ASEAN RTAs

ASEAN - Australia and New Zealand	
Title	Agreement Establishing the ASEAN-Australia-New Zealand Free Trade Area
Type	Free Trade Agreement & Economic Integration Agreement
Date of entry into force	1 Jan 2010 for Australia, Brunei Darussalam, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, & Viet Nam
Transition for full implementation for Myanmar	2021/2024/2025
Coverage	Goods and services
Myanmar's merchandise trade with Australia and New Zealand (2011/12)	Australia: 0.8% of total imports; 0.1% of total exports, New Zealand: 0.2% of total imports; 0.003% of total exports.
ASEAN – China	
Title	Agreement on Trade in Goods (under the 2002 Framework Agreement on Comprehensive Economic Cooperation between ASEAN and the People's Republic of China)
Type	Partial Scope Agreement & Economic Integration Agreement. Goods: Nov2004/Jan 2005. Services: Jan 2007/July 2007
Transition for full implementation for Myanmar	2015
Coverage	Goods and services
Myanmar's merchandise trade with China	30.8% of total imports; 24.2% of total exports (2011/12)
ASEAN – India	
Title	Agreement on Trade in Goods (under the Framework Agreement on Comprehensive Economic Cooperation between ASEAN and the Republic of India, 2003, as amended in 2009)
Type	Free Trade Agreement
Date of entry into force	1 Jan 2010 for Brunei Darussalam, Myanmar, and Viet Nam
Transition for full implementation for Myanmar	2018/2021
Coverage	Goods
Myanmar's merchandise trade with India	3.6% of total imports; 11.4% of total exports (2011/12).
ASEAN – Japan	
Title	Agreement on Comprehensive Economic Partnership among Japan and Member States of ASEAN
Type	Free Trade Agreement
Date of entry into force	1 Dec 2008 (Singapore, Japan, Viet Nam, the Lao PDR, and Myanmar)
Transition for full implementation for Myanmar	2026
Coverage	Goods
Myanmar's merchandise trade with Japan	5.6% of total imports; 3.5% of total exports (2011/12)
ASEAN - Republic of Korea	
Title	Agreement on Trade in Goods (under the 2005 Framework Agreement on Comprehensive Economic Cooperation among the Governments of the Republic of Korea and ASEAN)
Type	Free Trade Agreement & Economic Integration Agreement
Date of signature/entry into force	Goods: August 2006/Jan 2010; Services: Nov 2008/May 2009
Transition for full implementation for Myanmar	2018
Coverage	Goods and services
Myanmar's merchandise trade with Korea	5.0% of total imports; 2.4% of total exports (2011/12)

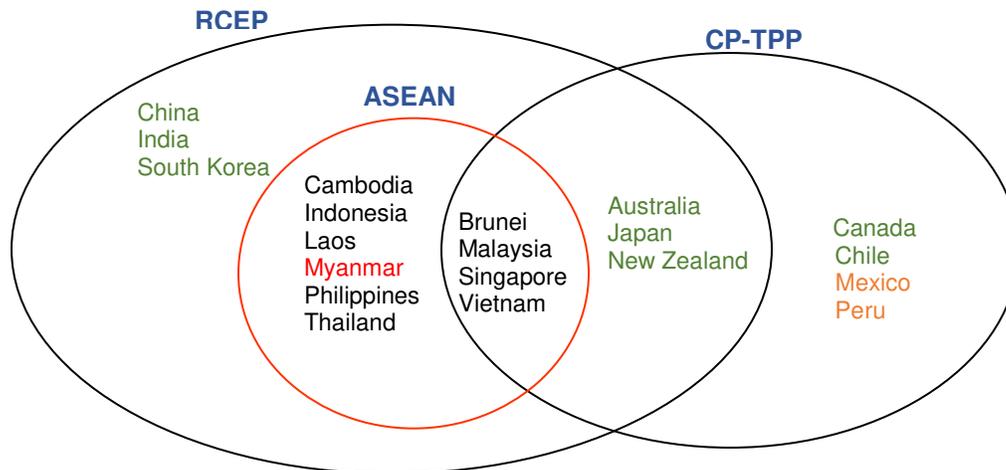
2010. S/C/N/559/Add.1; S/C/N/560, Add.1, 3 May 2011: <http://rtais.wto.org/> [15/04/13]

Source: WTO (2014), based on information from the authorities and the RTA website: <http://rtais.wto.org/>

The exports of Myanmar to RCEP markets represented about 80.99% of total exports in 2017, including natural gas. Available data indicates that Myanmar has not been able to use the DFQF scheme offered by India, with Utilization rate of around 1%. In 2016, only

20% of Australian imports from Myanmar benefited from DFQF treatment, corresponding to an average utilization rate of 49%. As it currently stands, RCEP does not seem to provide substantial improvements with respect to the market access that Myanmar is already being granted as part of the LDC, or ASEAN and ASEAN FTA network with dialogue partners.

Figure 4. Overlapping membership



**Countries in green are countries providing DFQF market access to LDCs.*

BIMSTEC

Myanmar is a member of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Co-operation (BIMSTEC), which it joined on 22 December 1997. Other members are: Bangladesh, Bhutan, India, Nepal, Sri Lanka, and Thailand. BIMSTEC is a forum to facilitate and promote trade, investment, and technical cooperation among participating countries. It has identified 13 broad sectors for cooperation: trade and investment, technology, tourism, transport and communication, energy, agriculture, fisheries, poverty alleviation, and counter-terrorism and transnational crimes.

In 2004, BIMSTEC parties agreed to establish a BIMSTEC Free Trade Area Framework Agreement in goods, services, and investment. Article 3 of the Agreement provides that goods, except those included in the Negative List, will be subject to tariff reduction or elimination according to different time frames. Myanmar had tariff reductions and eliminations for its fast track products before June 2011, and the tariffs on its normal track products were scheduled for reduction or eliminated before June 2017. Rules of origin have not yet been agreed among BIMSTEC countries.

GMS

Myanmar is part of the Greater Mekong Sub-region (GMS) programme, which covers nine priority sectors: transport, energy, telecommunications, environment, human

resource development, tourism, trade, private sector investment, and agriculture. In 1992, Myanmar, together with Cambodia, Lao PDR, Thailand, Viet Nam, and Yunnan Province of China¹⁵, launched the GMS programme of sub-regional economic cooperation, to enhance economic linkages across their national borders.¹⁶ The GMS countries have ratified an agreement to facilitate the cross-border movement of goods and people, which is being implemented on a pilot basis at key border crossings, and is being prepared for full implementation in the GMS corridors. There are no preferential tariff arrangements under the GMS.

Bilateral agreements

To enhance bilateral trade with neighbouring countries, Myanmar has signed four MOUs on establishing bilateral joint trade commissions, with Bangladesh, India, Thailand, and Viet Nam.

Myanmar considers trade with neighbouring countries through border points mainly by road transport as "border trade". Myanmar has 14 main border trade points with its four neighbours, including five border trade agreements, with China, India, Bangladesh, Thailand, and Lao PDR. However, no preferential treatment seems to be extended to border trade cooperation. The aim of these border trade agreements, according to authorities, is to promote and facilitate trade between the neighbours. The Government consults and negotiates with border trade partners in respective Joint Trade Commission/Committee meetings (JTC), Joint Border Trade Commission meetings, and Working Group meetings.

GSTP

Besides the existing regional arrangements, Myanmar signed the Global System of Trade Preferences among Developing Countries (GSTP) in 1988, which entered into force on 19 April 1989, to increase trade between developing countries.¹²

2.4 Liberalisation of services trade

The services sector account for less than 40 percent of Myanmar's GDP (it accounted for 37.5% of GDP in 2012/13). Myanmar is a net importer of services, with services trade deficit estimated at 4.1% of GDP in 2011/12. Travel, transport, and insurance are the major services exports and imports. State involvement through state-owned companies and restrictions on private-sector and foreign participation characterises the services sector. Foreign ownership restrictions remain for various services although in certain services activities, particularly banking, distribution, and transport, we are beginning to see sizable presence of private sector.

In the GATS, Myanmar's specific commitments are in two sectors: tourism and travel-related services (hotels; travel agencies and tour operators services), and transport

¹² WTO online information. Viewed at: <http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?rtaid=146>

services (services auxiliary to all modes of transport).¹³ Myanmar has made no horizontal commitments or listed any Article II (MFN) exemptions.

Services trade rightly received a lot of attention in CP-TPP. In fact, 12 services sectors and approximately 168 subsectors are identified in the agreement. Free trade and investment in services could become the rule for the CP-TPP member countries. However, several exceptions characterize the agreement, both in chapter annexes and general annexes to the agreement. And unlike GATS, the CP-TPP adopts a negative list approach for scheduling non-conforming measures, with standstill and ratchet mechanisms to capture future liberalization. CP-TPP members benefit from a comprehensive set of investment protection provisions, including against expropriation and denial of justice and a mechanism for the resolution of investment disputes.

Under the AFAS, restrictions on services trade were scheduled to be removed in 2015-18 for Myanmar. However, the agreement on services has not been notified to the WTO. The ASEAN Comprehensive Investment Agreement (ACIA), signed in 2009, is intended to streamline the existing ASEAN investment agreements, with a view to attracting more foreign investment into ASEAN and increasing intra-ASEAN investment. As an ASEAN member, Myanmar participates in ASEAN's preferential agreements with Australia and New Zealand, China, India, Japan, and the Republic of Korea. In ASEAN-China, services are included in ACFTA but the degree of effective trade liberalization is unclear. In ASEAN-Japan, no schedule for trade liberalization on trade in services.

Foreign direct investment (FDI) in Myanmar is governed by several laws. The 2012 Foreign Investment Law and the 2013 Myanmar Citizens Investment Law have been merged and upgraded into a single “Investment Law” in tandem with international investment rules—e.g. it provides for the common international standards of protection, notably National Treatment (“NT”), Most Favoured Nation (“MFN”) and Fair and Equitable Treatment (“FET”). These standards are a hallmark of international investment law.

Other applicable laws are the Myanmar Companies Act 1914 (MCA) and the Myanmar Partnership Act 1932 (MPA)—Chapter 3; the State-owned Economic Enterprise Law 1989 (EEL); the Special Company Act 1950 (SCA); and the Special Economic Zone Law 2011 (SEZ) and the Dawei Special Economic Zone Law 2011.¹⁴

Tax incentives are granted on profits accrued from exports, and foreign companies are required to employ a local workforce, on the basis of increasing the share of local employees over time. FDI in the ownership of private, specialist or traditional medicine hospitals is only permitted if it is a joint venture with Myanmar citizen. FDI is not allowed in private traditional hospitals; trading of traditional herbal raw materials; research and laboratories for traditional medicines; ambulance transportation service; and

¹³ GATS document GATS/SC/59, 15 April 1994

¹⁴ FIL set out requirements for foreign-invested companies and foreign projects in Myanmar. MCA and MPA set out details for corporate investment structures and governance requirements. EEL reserves certain sectors for the State. SCA applies to joint ventures formed between private and state-owned companies. SEZ law regulates investment in special economic zones.

establishment of health-care centres for the aged. Other areas where FDI are not permitted include restaurant contracts, cargo transportation contracts, and cleaning and maintenance contracts on trains; agencies as well as in generating electric power below 10 megawatts; and publishing and distribution of periodicals in the language of ethnic peoples, including in the Myanmar language.

The previous law of 1989 adopted a "positive list" approach where foreign investors were allowed to invest only in listed sectors. In contrast, the new investment law lists certain activities that are restricted or prohibited to foreign investment, including

- (i) businesses that can affect the traditional culture and customs of the ethnic nationalities of the country, and public health;
- (ii) businesses that can cause damage to the natural environment and ecosystem;
- (iii) importation of hazardous or toxic waste materials;
- (iv) production or use of hazardous chemicals specified in international agreements;
- (v) importation of technology, medicines, instruments pending lab test or not obtaining approval for use; and
- (vi) investment activities within 10 miles of the border within the territory, except economic zones as specified by the Government.

The implementing rules list specific sectors reserved for Myanmar citizens (Table 5).

Table 6. Sectors reserved for Myanmar citizens

Group	Sectors
	<p>Manufacturing and services sectors reserved for Myanmar citizens only</p> <p>Manufacturing</p> <ul style="list-style-type: none"> • Administration and maintenance of natural forest • Manufacturing of traditional medicines • Extraction of crude oil up to 1,000 feet depth • Small and medium scale mineral production • Production and plantation of traditional herbal plants • Wholesale of semi-finished products and iron ores • Production of traditional food • Manufacturing of religious materials and equipment • Manufacturing of traditional and cultural materials and equipment • Handicraft <p>Services</p> <ul style="list-style-type: none"> • Private traditional hospitals • Trading of traditional herbal raw materials • Research and laboratory for traditional medicines • Ambulance transportation service • Establishment of health care centre for the aged • Restaurant contract, cargo transportation contract, cleaning and maintenance contract on trains • Electric power generating below 10 megawatt • Publishing and distribution of periodicals in languages of ethnic people including Myanmar language
Schedule 1	
Schedule 2	Agricultural Business and short-term and long-term plantation business reserved for Myanmar citizens only
Schedule 3	Livestock breeding business reserved for Myanmar citizens only

Schedule 3	Fishing business in Myanmar's territorial waters reserved for Myanmar citizens only
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Further to these, the Ministry of Commerce (MoC) Notification No. 1/2013 lists sectors prohibited or restricted for foreign investment. Restricted businesses include those carried out by joint ventures with local investors (for the purpose of knowledge sharing), and those requiring certain conditions. These conditions may be attached to implement and meet certain manufacturing practices and standards, to properly use natural resources, or to apply environmental impact assessment.

In addition, under Articles 3 and 4, Chapter II, of the State-owned Economic Enterprise Law (1989), certain sectors were reserved to the State (and conducted by State-owned Economic Enterprises (SEEs)). For investment in any of these restricted or prohibited areas, permission from the MoC may be granted if the investment is considered to be beneficial to the citizens and particularly the ethnic nationalities, but foreign equity must not exceed 80 percent in the reserved activities. For those large foreign investment projects which are considered to bring substantial benefit to public security, improve surrounding areas and the living conditions of citizens, the MoC will submit the application to the Union Parliament through the cabinet for approval.

2.5 Trade disputes and consultation

Myanmar is not a member of the International Convention for the Settlement of Investment Disputes. It became a party of the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards in 2013. Arbitration provisions are prescribed in the Myanmar Arbitration Act 1944, which allows for international arbitration. For commercial disputes between domestic companies, the the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI) is the arbitrator, taking the role of mediator. A common view is that mediation is usually successful in the event of commercial disputes between local companies. For disputes relating to foreign companies, however, the Arbitration Rules of the Chamber of Commerce apply.

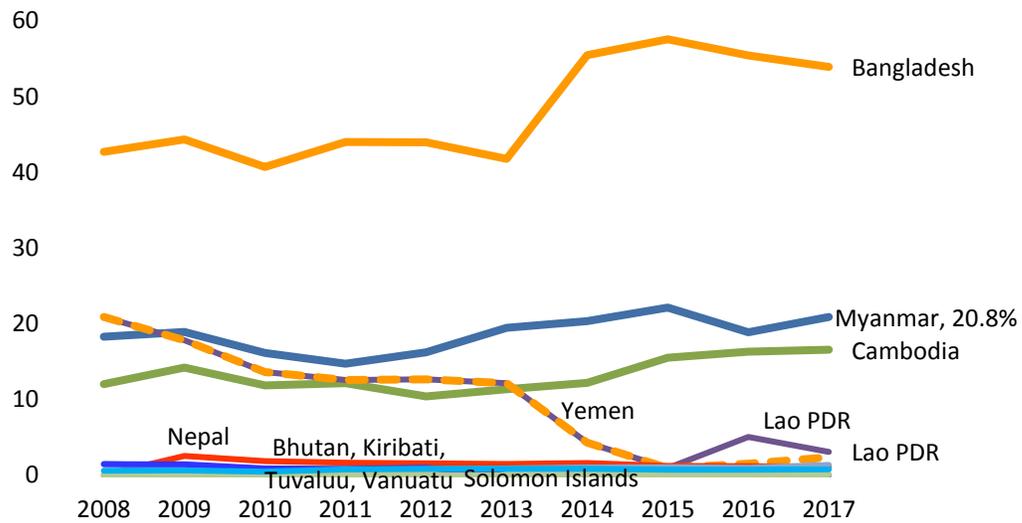
3 Trade performance and sector level employment in Myanmar

3.1 Exports in the context of the Asia-Pacific LDCs

Myanmar is the 75th largest export economy in the world, and second to Bangladesh among the Asia-Pacific LDCs (Figure 4). Figure 5 shows the trends in the share of exports for the Asia-Pacific LDCs over the period 2008 through 2017. In 2017, Myanmar accounted for 20.8 percent of total exports of the Asia-Pacific LDCs, up from 14.7 percent in 2011. Exports remain insignificant for eight Asia-Pacific LDCs, Afghanistan, Nepal, Timor-Leste and Vanuatu, Nepal, Afghanistan, Bhutan, Kiribati, Timor-Leste,

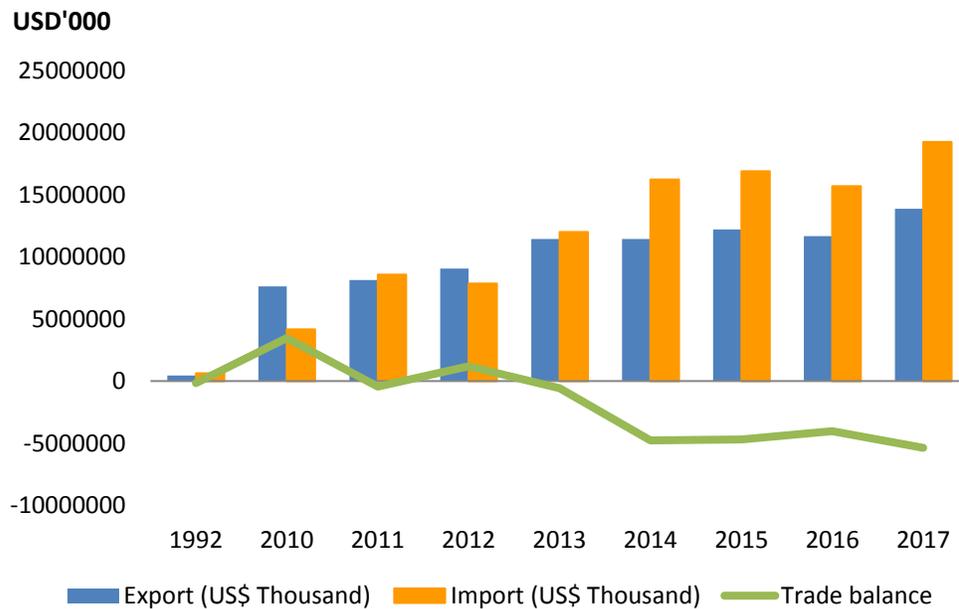
Tuvalu, Vanuatu and Solomon Islands, while Yemen has been on downward trajectory partly due to effect of civil war. In 2017, Myanmar exported \$13.9 billion worth of merchandise and imported \$19.25 billion worth of merchandise, resulting in a negative trade balance of \$5.37 billion (Figure 6). While exports grew at an average rate of 9.4 percent per annum, between 2011 and 2017, imports grew by 29.3 percent (on average).

Figure 5. Merchandise exports to exports of Asia-Pacific LDCs (PERCENT)



Source: Author's calculations based on World Bank WITS database

Figure 6 Myanmar's merchandise trade, 1992–2017 (US\$ thousand)



3.2 Structure of merchandise exports

Table 7 displays Myanmar's top-10 commodity exports in 2010 and 2017 and Figure 7 shows the export product share in the export basket in 2011 and 2017. Not significant changes in the export composition can be seen. Natural gas remains Myanmar's single most important export item accounting for 38.3 percent of the export basket in 2011 and 26.7 percent in 2017. Over-dependence on natural resources and high export concentration remain a key feature of Myanmar's foreign trade. Exports of jade, wood and wood products and fish and crustaceans have grown in absolute terms, although their share of total exports has been falling. Meanwhile, the share of agricultural exports, including pulses, maize, rice, and rubber has been growing over the last few years.

Table 7. Myanmar's top-10 merchandise exports, 2010 and 2017

Rank	2010		2017	
	Share (%)	Product	Share (%)	Product
1	46.2	Consumer goods	55.6	Consumer goods
2	38.5	Fuels	26.7	Fuels
3	38.0	Intermediate goods	20.7	Vegetables
4	24.5	Stone & glass	19.6	Raw materials
5	15.4	Raw materials	18.1	Intermediate goods
6	15.0	Vegetables	18.1	Textiles & clothing
7	7.8	Wood	6.8	Metals
8	4.6	Textiles & clothing	6.6	Food products
9	4.5	Animals	5.3	Capital goods
10	2.6	Plastics & rubber	4.5	Animal
11	0.72	Footwear	3.7	Transportation
12	0.7	Metals	2.8	Stone & glass
13	0.5	Miscellaneous	2.0	Plastics & rubber
14	0.2	Food products	1.9	Footwear
15	0.2	Minerals	1.7	Wood

Top 10%

Notes: Share (%) is percentage of total Uganda's imports

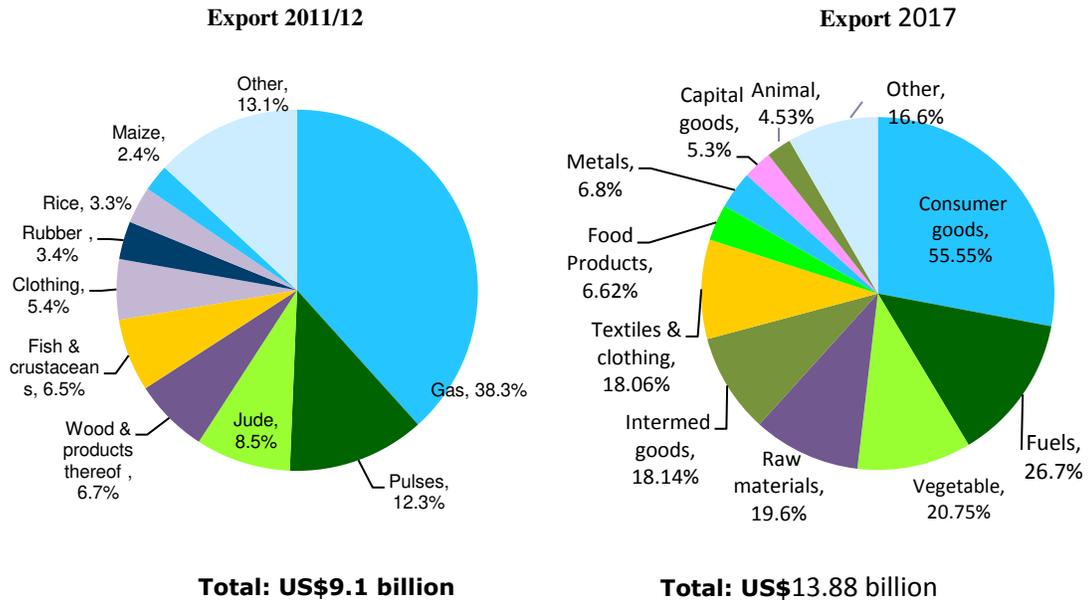
Source: Author's calculation based on World Bank WITS database

Myanmar's top export destinations are China, Thailand, India, and Singapore, which accounted for 83.4 percent of the merchandise exports in 2011/12 and 57.4 percent in 2017. Over this period, Myanmar has not made a significant shift in its trading partners (Figure 7). Thailand's share in the export basket has declined significantly, while export share to China, the EU and Japan has risen. The increased export to China is attributed to the bilateral agreement that the two countries signed in 2008 for the supply of gas to China for the next 30 years. The dramatic rise in the export share to the EU, by 13 percentage point, from about 1.9% in 2011 to 14.91% in 2017 is due to the reinstatement of EBA in 2013.

The share of India in the Myanmar's export basket has also declined, while that of Singapore has increased slightly. The share of, Republic of South Korea, Malaysia and the rest of the world remained nearly unchanged. Even when liquefied gas is excluded from the export basket, China remains Myanmar's single most important trading partner.

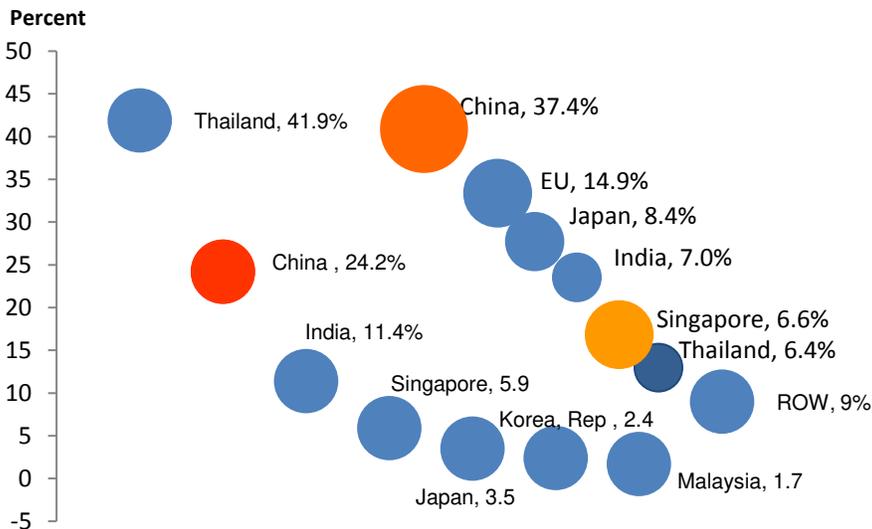
Apart from natural gas, increased export to China is driven by exports of agricultural products including rice, seeds, and sugar, and to a little extent, ores and precious stones. Non-gas exports to China increased from USD 476 million in 2010 to USD 3.7 billion in 2017.

Figure 7. Export product share (PERCENT), 2011/12 and 2017



Source: WTO (2011/12) and World Bank WITS (2017).

Figure 8. Myanmar's exports destination, 2011/12 (LHS) and 2017 (RHS)



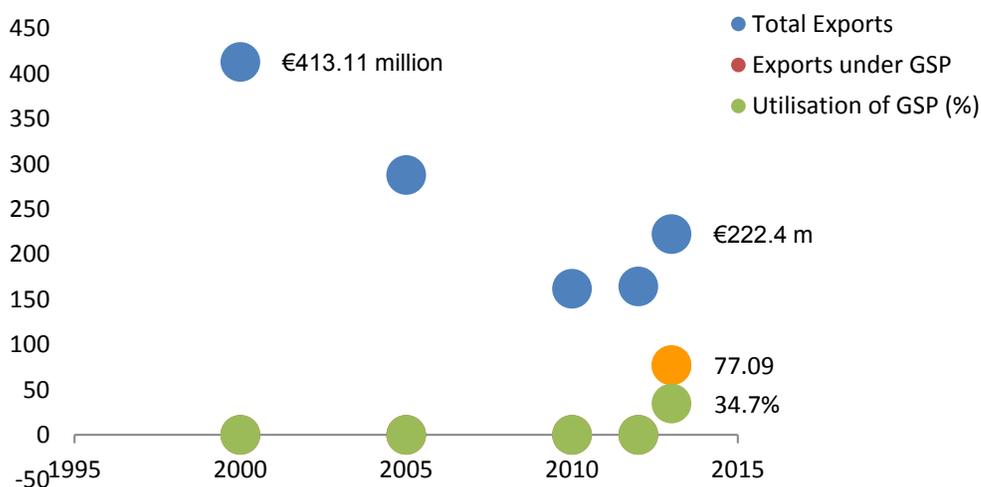
Source: World Bank WITS

The U.S. is not a significant market for products from Myanmar. In 2017, exports to U.S. accounted for 2.7 percent share of Myanmar’s total export basket. ASEAN countries top-5 accounting for over 50% of her exports.

Myanmar’s top-10 export destinations are countries currently providing duty-free market access to Myanmar. China, the Republic of Korea, India, Turkey and Taiwan Province of China have provided DFQF market access to a number of products from LDCs. Along the way, some of these countries took the liberty to phase in the coverage stipulated in Annex F (WTO). China introduced DFQF scheme in 2010, and currently over 60% of all tariff lines are covered by DFQF market access. India introduced the same scheme in 2008, and India’s 85% of tariff lines are currently covered by DFQF market access, with a margin of preference above the most favoured nation clause for an additional 9% of tariff lines. Taiwan Province of China introduced the scheme in 2005 and Turkey in 2006. As of December 2019, nearly 35% and 80% of tariff lines were covered by DFQF access in Taiwan and Turkey, respectively. Republic of South Korea first introduced the DFQF scheme in 2000, and coverage was extended in 2008. As of December 2019, up to 95% of tariff lines were covered by DFQF access.

Figure 9 shows the trends in Myanmar’s exports to the EU and utilization of the GSP. Rules of origin under any preferential scheme remain a key determinant of effective use of preferences (enables LDCs to take advantage of the preferential access granted by preference-giving countries). The EU new Rules of Origin (RoO) which entered into force in 2011 allow duty-free entry of a garment that is sewn from two or more pieces using fabric produced anywhere. This means that, for the first time, garments produced in Myanmar from fabric manufactured in China can secure duty-free access to the EU.

Figure 9. Myanmar’s exports to the European Union



Source: Author’s estimations using data available from Eurostat (2014)

Note: Value in Euro millions

Evidence shows significant increase in GSP utilization rates since 2011 by Asia-Pacific LDCs following the EU’s new ROO with more relaxed criteria for LDCs in 2011.

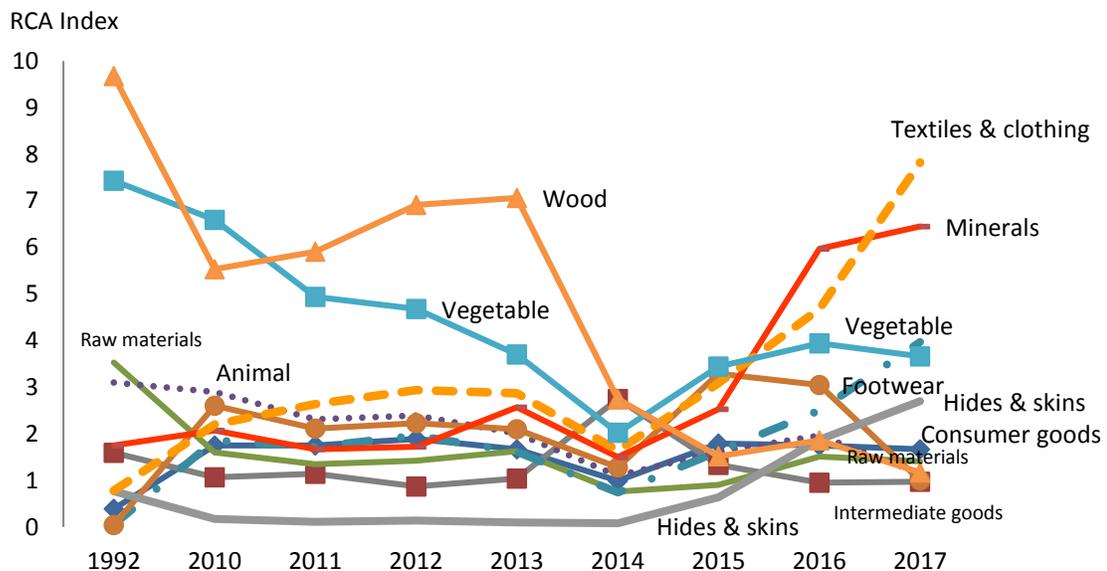
Bangladesh, Cambodia, Bhutan, the Lao PDR and the Solomon Islands are among the Asia-Pacific LDCs that have meaningfully benefited from the European Union’s relaxed ROO. Seemingly, other countries except Myanmar, which had been outside GSP schemes until July 2013 (Figure 8), were unable to utilize GSP benefits. This example alone, suggests that Myanmar like other progressive Asia-Pacific LDCs are poised to benefit from any revision of preferential ROO by preference-giving countries following the adoption of the ministerial decision.

To the extent that low utilization of GSP benefits could be attributed to low productive capacities or high compliance costs in those countries, Myanmar LDCs will need to assess her productive capacities in order to determine how best she can advantage of the opportunities that GSP provides. DFQF wider market access with favourable ROO will allow Myanmar to produce more competitively through access to cheaper sources of inputs, and thereby be able to attract new (foreign) investment and expand trade.

3.3 Export competitiveness at product level in key export markets

Figure 10 provides revealed comparative advantage (RCA) profile for selected export commodities, which recorded a RCA greater than one, three-quarter of the times between 1992 and 2017.¹⁵

Figure 10. Revealed comparative advantage index



Source: Author’s calculations based on World Bank WITS database

¹⁵ The RCA index of product i into the export market j is estimated by $R_{ij} = c_{ij} / c_j \div c_{ij} / c_M$. For details, see Ayoki (2019).

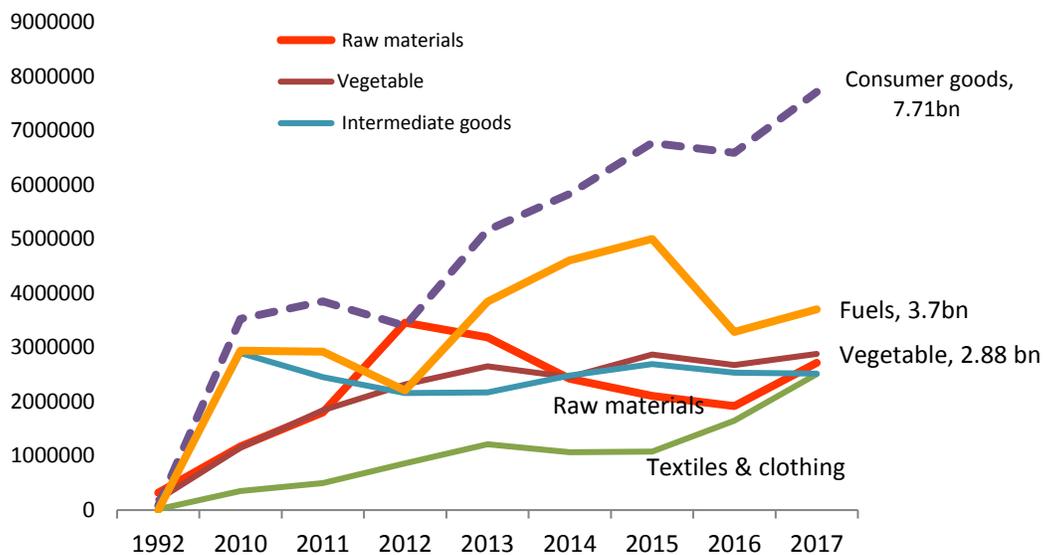
Seven of the top-10 export items (consumer goods, fuel, vegetable, raw materials, intermediate goods, textile & clothing, and animals) show a RCA index greater than one, during 2001–2016—realizing Myanmar’s comparative advantage especially in those seven commodities (plus wood) in the current export markets. Perhaps what is more revealing from Figure 6 is the fact that while the RCA showed downward trajectory for all commodity categories between 1992 and 2014, these trends have since been reversed. After 2014, the RCA profile has been rising for all the commodity categories. These changes are linked to the lifting of trade sanctions, reinstatement of EBA in 2013 and other GSP schemes, the phasing out of the multifre agreement, and market oriented reforms pursue by government of Myanmar.

Again, when the RCA for the 2014 and 2017 were compared, it was easy to see that the number of products that Myanmar can be competitively exported is growing, showing the country’s significant export potential. This means, given the right policy environment, Myanmar holds the promise of a new centre of growth in the Asia-Pacific. If growth in these products continues for an extended period, these products may eventually become those that can be competitively exported and important source of Myanmar’s export earnings.

Figures 11 and 12 show the exports trends, involving products that Myanmar has revealed comparative advantage (RCA).

Figure 11. Competitive products, with rising exports in value terms

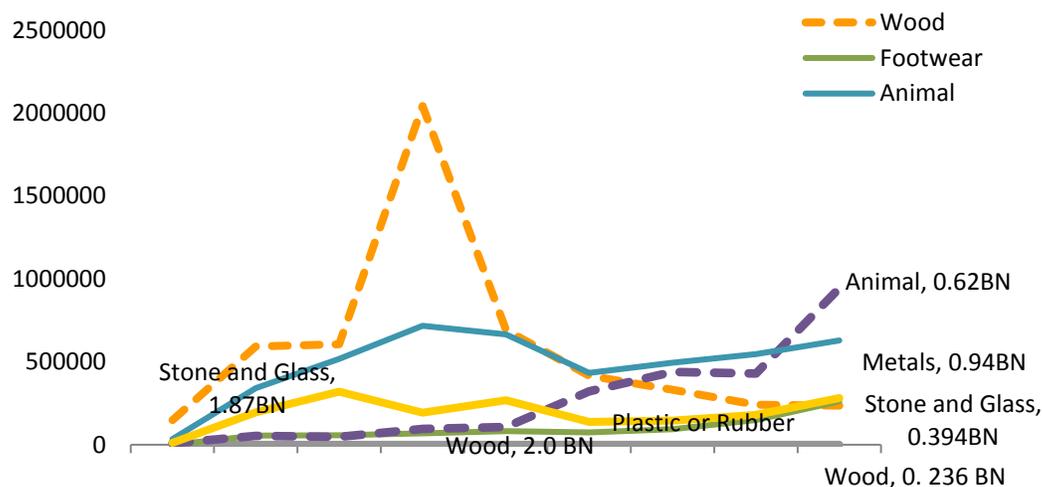
(in thousand US\$)



Source: Author’s calculations based on WITS database

Of the eight products that Myanmar has revealed comparative advantage, five have recorded consistent growth in exports (Figure 10), while three have recorded declining value of exports (Figure 12)—showing increased export concentration in a few commodities.

Figure 12. Competitive products, with declining exports in value terms



Source: World Bank WITS

3.4 Structure of merchandise imports

Myanmar's merchandise imports as a share of GDP rose from about 11% in 2009/10 to approximately 16% in 2011/12.⁶ Table 1 shows the top-10 merchandise imports for 2010 and 2017 along with their share of the import basket. The product share in the import basket has increased for consumer goods and transport equipment, but declined for intermediate and capital goods, fuel, machinery and electrical equipment. The share for capital goods, metals and textiles have not changed over this period (2010–2017).

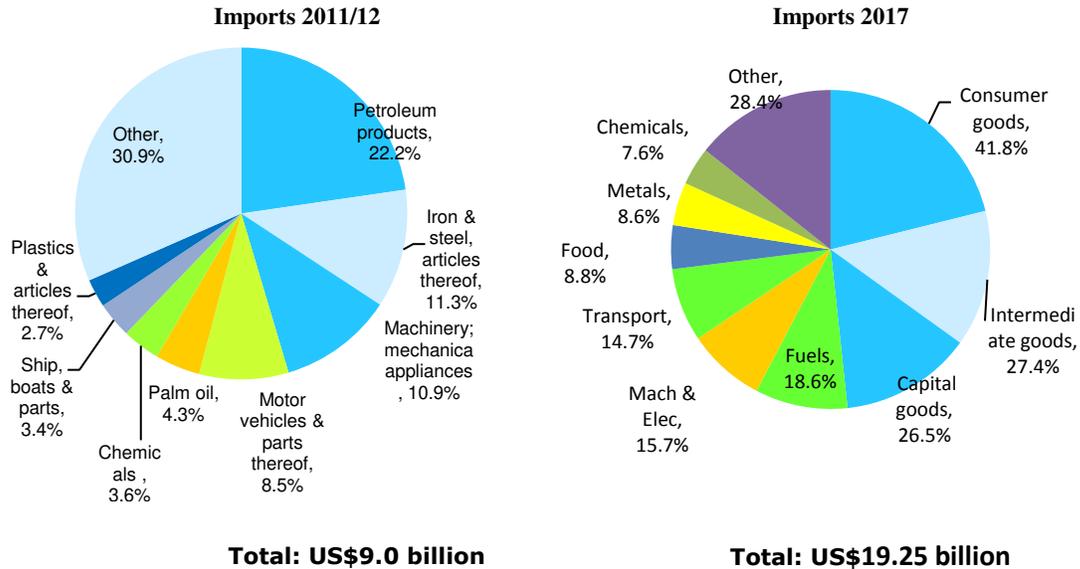
Table 8. Myanmar's top-10 import items, 2010 and 2017

Rank	2010		2017	
	Share (%)	Product	Share (%)	Product
1	39.95	Consumer goods	41.8	Consumer goods
2	32.51	Intermediate goods	27.3	Intermediate goods
3	26.52	Capital goods	26.5	Capital goods
4	25.5	Fuels	18.6	Fuels
5	18.57	Machinery & electrical	15.7	Machinery & electrical
6	8.7	Transportation	14.7	Transportation
7	8.6	Metals	8.6	Metals
8	7.5	Textiles & clothing	7.5	Textiles & clothing
9	7.5	Chemicals	5.4	Vegetables
10	5.9	Vegetables	4.4	Plastics & rubber
11	2.3	Minerals	3.4	Miscellaneous
12	2.2	Raw materials	2.3	Raw materials
13	1.5	Miscellaneous	1.8	Wood
14	1.3	Animals	1.4	Stone & glass
15	1.1	Food products	0.6	Minerals

Top 10%

Share (%) is percentage of total Uganda's imports

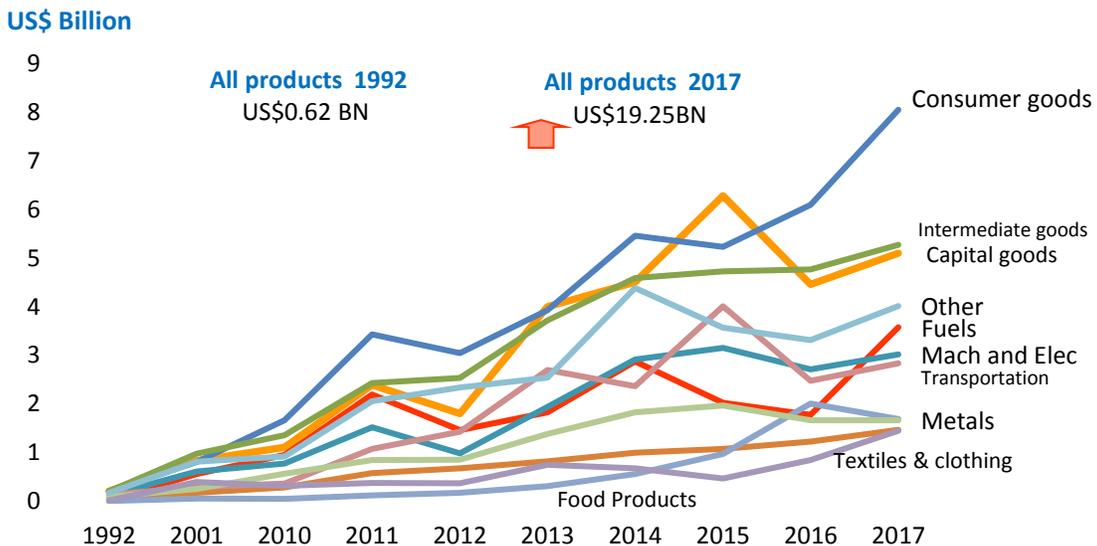
Figure 13. Product composition of merchandise imports, 2011/12



Source: World Bank WITS

Between 2010 and 2017, imports rose by 3.6-fold, from US\$4.16 billion in 2010, to US\$19.25bn in 2017 led by raw materials, food products, footwear and transport equipment.

Figure 14. Myanmar’s merchandise imports, 1992–2017



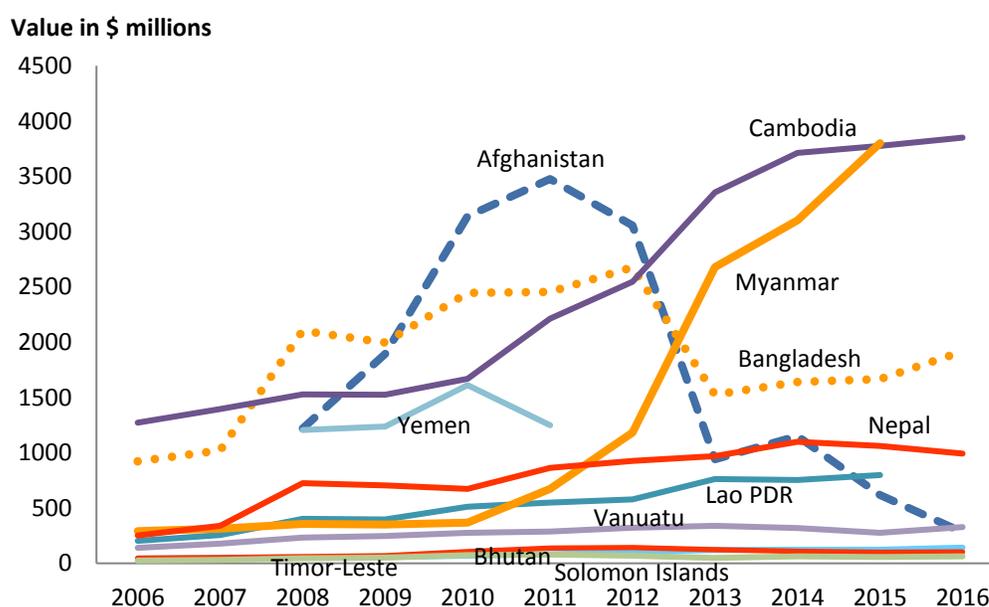
Source: World Bank WITS

The top import origins/suppliers are China, Singapore, and Thailand; the share of imports from Singapore and China appear to have been rising, while the shares from Thailand and rest of Asia have shown a downward trend. Over 40% of Myanmar's imports were from ASEAN countries in 2017.

3.5 Trends in Myanmar’s services trade

Figure 15 provides the trends in services exports for the Asia-Pacific LDCs. Only Cambodia, Myanmar and Nepal, and to a small extent, Bangladesh and Lao PDR registered export growth during the past five years, although annual growth rates fluctuated for individual countries. The travel sector remains a critical component of service exports for most Asia-Pacific LDCs. Other emerging sectors are communications, transportation, construction, and insurance services. Finance, telecommunications, and business services still comprise a relatively small share of exports of most Asia-Pacific LDCs.

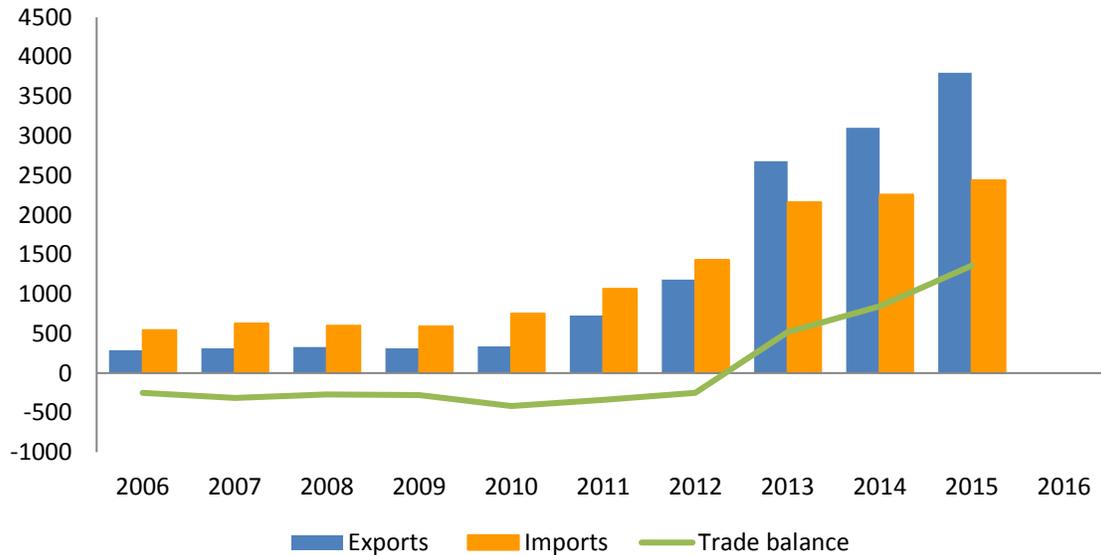
Figure 15. Service exports of Asia-Pacific LDCs



Source: WTO /World Bank

Although services sector accounted for 42 percent of Myanmar's GDP in 2018, only small portion of services were exported—about 6 percent of GDP. However, we have seen significant improvements over the last five to eight years. The retail and wholesale sector has benefited from liberalization that is drawing foreign investment—driving competition, accompanied by related logistics services. From 2010 to 2016, for example, Myanmar’s commercial service exports as a share of their GDP increased by 5.2 percentage points. The deficit in services trade declined from about 4.7% of GDP in 2009/10 to around 4% of GDP in 2011/12. In nominal terms, Myanmar moved from a deficit of US\$340 million in 2011, to a surplus of US\$1.36 billion in 2015 (Figure 16)—holding a promise of a fast growing service sector.

Figure 16 Myanmar’s service trade, 2006–2017 (US\$ million)

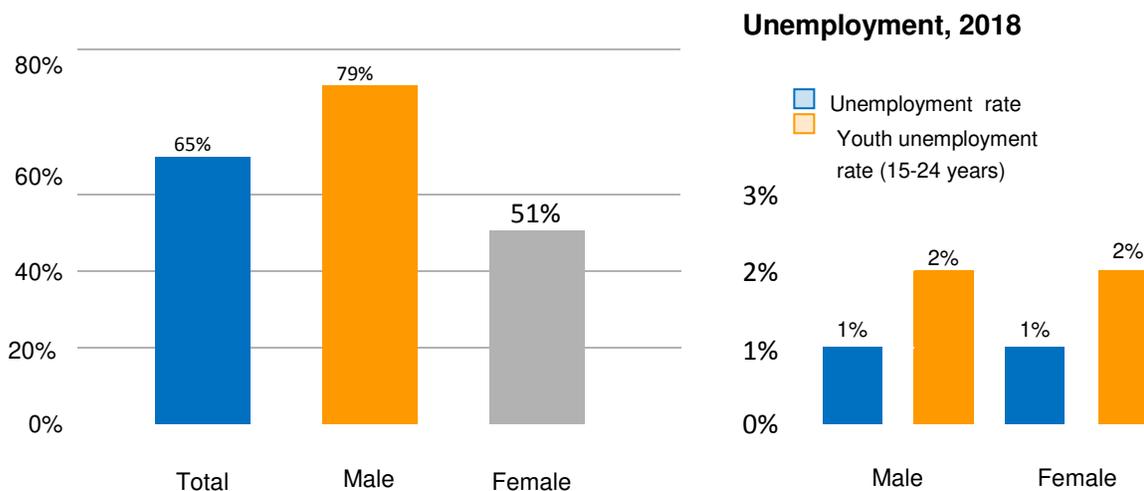


Source: WTO

3.6 Employment scenario

Official, up-to date data on unemployment are lacking. The ILO data puts total unemployment in 2018 at 0.8 per cent, and the youth unemployment at 2.0 per cent (Figure of the working-age population (aged 15+) of over 36.4 million. The employment-to-population ratio stood at 64.6 per cent in 2018.

Figure 17. Employment-to-population, 2018 (15+ years)



The World Bank’s World Development Indicators also suggest that unemployment in Myanmar is about the average of the ASEAN and neighboring countries, but higher than

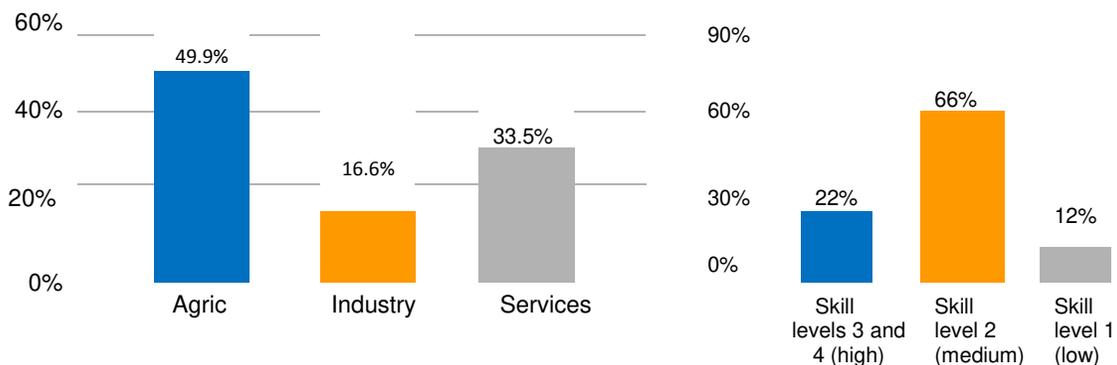
the levels in Brunei Darussalam, Cambodia, India, the Lao PDR, Malaysia, Thailand, and Viet Nam.

While unemployment is low (by definition or survey criteria), less than 40 percent of the workforce are wage earners (employees); majority may be earning only meagre incomes as own-account workers (comprising 40% of the workforce), or from irregular casual work opportunities (casual workers make up about 18% of the workforce) or as contributing family members. Again, evidence indicates that underemployment is pervasive and that the nature of work in Myanmar is predominantly informal, implying that the low unemployment may not necessary reflect progress in terms of livelihood of the 54 million people.

At sector level (Figure 18), employment is heavily concentrated in the agricultural sector (over 45 percent), followed by wholesale and retail trade (about 15 percent), Manufacturing (about 11 percent) and transportation and storage (about 5 percent). The trade sector currently employs about 15 percent of the total employment, which equals a total 2.9 million workers (of which about 55 percent are women). Trade contributes about 18 percent of the GDP.

Employment by occupation, 2018

Figure 18. Employment by sector, 2018 (15+ years)



Note: Labour force participation rate and unemployment: aged 15 years and older. Youth unemployment: aged 15–24 years. Employment by occupation: skill level 1 (low) for elementary occupations; skill level 2 (medium) for clerical, service and sales workers, skilled agricultural and trade workers, plant machinists and assemblers; and skill levels 3 and 4 (high) for managers, professionals and technicians.

Source: estimates based on ILO data ILOSTAT, www.ilo.org/ilostat (accessed 30 January 2019).

4 The link between trade and employment

4.1 Theoretical context

The theoretical and empirical models that explains the impact of international trade policies on economy-side unemployment rates draws from Heckscher-Ohlin's factor theory of comparative advantage. The basic insight of the Heckscher–Ohlin (HO) model

is that traded commodities are bundles of factors of production (land, labour, and capital). Trading in commodities internationally is an indirect way of trading in factor services. The most important implication of HO model, in the context of developing countries is that, the option to sell labour services externally through trade has the potential to transform a local market labour services into a global market and thereby shift employment toward the domestic industries where labour is most productive.

The economy comprises several production sectors, indexed by $i = 1, 2, \dots$. Each sector is inhabited by firms, which maximise profits subject to constant-return-to-scale production technologies taking as given pre-tax factor prices. The detrended production function is Cobb-Douglas:

$$F(K_t, L_t) = K_t^{1-\alpha} L_t^\alpha \quad 0 < \alpha < 1 \quad (1)$$

where α is the share of labour in output, and for a representative firm in sector i

$$Q_{it} = A^\gamma K_{it}^{1-\alpha} L_{it}^\alpha \quad (2)$$

where:

Q = real output

K = capital stock

L = units of labour utilized

" A " is a measure of productivity (or a potential Hicks-neutral technological change) and γ allows for factors changing the efficiency of production process.

Without loss of generality, stock of capital is assumed fixed in the short-run and any changes in the output are brought about by changes in labour employment. Therefore, natural logarithm of equation (1) yields

$$\ln Q_{it} = \alpha A^\gamma \ln L_{it} \quad (3)$$

Given fixed stock of capital, firms hire labour according to standard marginal productivity rules and earn zero profits. That is, $w = MP_L * P$ —where w = wage paid, MP_L = marginal product of labour, and P = price of the product—represents a labour demand condition.

The value of output imported by domestic economy i.e imports of capital-intensive goods $i = 1$ is no greater than the value of its exports i.e. export of labour intensive goods $i = 2$. That is, $Q_1 + Q_2 = 0$ is the trade balance condition for developing countries.

Therefore,

$$\ln Q_1 = -\ln Q_2 \quad (4)$$

The labour market condition (Equation 5) states that the sum of labour allocated across industry sectors $i = 1, 2$ can be no greater than the total labour supply in the domestic economy.

$$L_1 + L_2 \leq L \quad (5)$$

Substituting equations (5) and (2) into (3) and rearranging yields

$$\ln L_1 = -\frac{\alpha_2}{\alpha_1} \ln L_2$$

Therefore,

$$\ln L_1 = -\delta_1 \ln L_2 \quad (6)$$

where $-\delta_1$ is elasticity of substitution of labour between sector 1 and the sector 2—that is, the percentage change in sector 1 labour employment resulting from a one percentage change in sector 2 labour employment. Trade liberalization impacts on employment through the reallocation of labour share to more productive sectors. While economies are assumed to produce both goods: 1 and 2 (e.g. import-competing and export-oriented goods), developing countries abundantly endowed with low-skilled labour, specialise in production of labour-intensive goods characterised with low-skilled labour. As a result of the shift of production in favour of labour-intensive sectors, the derived demand for labour inputs becomes much more elastic. A rising commodity prices through trade and the market reallocation effect also increases average wages.

In addition to these intra-sectoral effects, changes in the composition of output at the economy-wide level result in reallocation of factors of production to higher-productivity sectors. Since demand for labour depends on product price, sector real output, the volume of imports and aggregate demand in particular sector, evidence of worker reallocation across industries in response to tariff changes.

Accompanying an elastic labour-demand function is aggregate gross domestic product (GDP) with a relatively constant marginal productivity of capital. This is important because growth induced by capital accumulation is generally limited by the declining marginal productivity of capital.¹⁶

4.2 Model specification

Building on previous studies e.g. McMillan and McCaig (2019), we estimate industry sector employment in which the share of the workforce employed in sector i at time t : S_{it} depends on a vector of a number of variables including tariff and NTM, sector output,

¹⁶ Romer (1986) sparked a wave of sustainable growth models that emphasise externalities but that depend critically on a constant or increasing long-run marginal productivity of capital.

industry competitiveness (measured by revealed comparative advantage), as well as initial industry conditions:

$$S_{it} = \alpha_1 \ln(1 + \text{tariff}_i) + \alpha_2 \ln \text{GDP}_i + \alpha_3 \ln \text{RCA}_i + \beta d_i + \varphi_i + \eta_t + \mu_{it} \quad (7)$$

where i indexes industry sectors ($i = 1, 2, 3, \dots$ denoting agriculture, industry, and for all sectors); t indexes time i.e., 2014 ($t=1$) and 2017 ($t=2$), S_{it} is the share of the workforce employed in sector i at time t , while tariff_{it} is the tariff in industry i at time t . GDP is sectoral real output, RCA_i is industry i 's revealed comparative advantage, d is a dummy for 2017 interacted with a vector of initial industry conditions in 2014, η_t is a S_{jt} time fixed effect, and φ_i is an industry fixed effect. The industry fixed effects φ_i control for differences between the industry sectors, based on the SITC industry classification, while μ accounts for the unobservable shifts in labour reallocation (industry share of the workforce) arising from factors other than trade policy.

Our identifying variations are changes in tariffs over time within an industry sector, sector real GDP, and revealed comparative advantage (RCA) index; conditional on controlling for initial industry conditions. From a theoretical standpoint, the impact of tariff reductions on industry sector employment, informality, and unemployment is ambiguous. Tariff reductions by Myanmar are expected to lower the price of imports and increase the demand for imports in Myanmar. Conventional trade theory predicts that the industries that experienced the largest tariff cuts and reduction in nontariff measures should experience a reduction in the share of workers and thus that the coefficient on tariff, α_1 , should be positive as well as for the coefficients on changes in sector output, α_2 and revealed comparative advantage, α_3 .

Since much of the previous literature has shown that exports have strong sector specific components, the industry sectoral fixed effects are vital to correct the attenuation bias arising from unobserved heterogeneity between sectors, for instance, from sector-specific demand conditions with respect to product markets, technological possibilities and any effects related to initial differences in industry size and composition (due to their correlation with tariff reductions). As such, the results are to be interpreted as within-sector effects, that is, how the differing tariff of one sector from other sectors in the same economy affects sector level growth and employment.

Another important feature of our model is possible endogeneity of the policy reform¹⁷ through a dummy variable, d interacted with a vector of initial conditions in the industry i (e.g. share of informal sector, the industry's share of total employment, sector GDP, etc) calculated from the 2014 population and housing census. Evidence about the correlation between initial conditions and subsequent tariff cuts is common in the literature. For

¹⁷ For example the size of the tariff reduction may vary with initial conditions across industries, which in turn may influence the labour outcomes

example, using labour force survey data, McMillan and McCaig (2019) find that the initial industry's share of informal workers is correlated with subsequent tariff reduction in Botswana. Several studies reviewed by McMillan and McCaig (2019) also reveal that initial industry conditions are correlated with tariff reductions. For example, the initial share of skilled workers was found to be correlated with subsequent tariff reductions in Columbia (Goldberg and Pavcnik 2005). The same applies to India; initial share of nonproduction workers was found to be correlated with the size of industry tariff reduction (Topalova and Khandelwal 2011). We estimate equation (7) for agriculture, industry, and for all sectors.

4.3 The data

To estimate equation (7), we used data from the 2014 Census conducted by the Ministry of Immigration and Population (MOIP) and the labour force survey conducted in 2017 (by Department of Labour in the Ministry of Labour, Immigration and Population). These data cover urban and rural areas, and include information on employment in both formal and informal sectors, as well as detailed categories of work status for both workers and those not working in the formal and informal sectors, and all industry sectors. Over this period (2014–2017), Myanmar experienced a slight decline in the prevalence of informal work in aggregate. Share of informal employment in total employment stood at 83% in 2017, down from 87.5% in 2015. The labor force surveys contain questions regarding the previous industry of employment for the unemployed, allowing us to examine the impacts of tariff cuts on unemployment. Unemployment is reasonably low in Myanmar; about 2.1% in 2017 up from 0.8% in 2015.

Other sources of data include Myanmar Statistical Yearbook, 2017 that provides an updated compendium of statistics on demographic, social and environmental aspects compiled Central Statistical Organisation in the Ministry of Planning and Finance from various sources including data from the 2014 Census and many previous surveys. Data on trade flows are sourced from the World Bank World Integrated Trade Solutions (WITS) and data and information on tariffs and nontariff measures were obtained from several sources: World Bank, UNCTAD, WTO and published resources from the Ministry of Planning and Finance (The Government of the Republic of the Union of Myanmar). Data obtained from Trade data

Various economic data from different government sources, as well as those from different international organizations vary significantly, making them difficult to reconcile; comparison of data over years may be difficult, partly due to the existence of multiple exchange rates.

4.4 Descriptive statistics

Table 3 that captures the key variables used in econometric analysis. Table 3 shows wide dispersion in share of the workforce employed across sectors—agriculture, industry and

services—and within sectors. Across broad economic sectors, variability in share of employment is largest in the industry and lowest in services.

Table 9. Descriptive statistics

	Obs	Mean	Std. Dev	Min	Max
Dependent Variable:					
Share of the workforce employed in:					
Agriculture	16	50.5	2.404	48.8	52.2
Industry	16	15.15	3.748	12.5	17.8
Services	16	34.35	1.344	33.4	35.3
Sector employment share (%)					
Agriculture, forestry and fishery	16	50.5	2.404	48.8	52.2
Mining and quarrying	16	1.0	0.283	0.8	1.2
Manufacturing	16	8.8	2.828	6.8	10.8
Electricity, gas, etc*	16	0.15	0.071	0.1	0.2
water supply and other*	16	0.15	0.071	0.1	0.2
Construction	16	5.05	0.636	4.6	5.5
Wholesale and retail trade	16	12.65	4.596	9.4	15.9
Transportation and storage	16	4.3	0.566	3.9	4.7
Independent Variables:					
Tariffs	27	12.55	16.617	0	40
Log (sector) GDP	16	17.68	0.639	16.324	18.19
Revealed comparative adv. (RCA)	20	1.528	1.942	0	12.19

Source: Author's calculations based on various sources

The high variability in industry sector employment reflects increased competition and adjustment costs that came with opening up to international trade. The low variability in the service sector employment reflects the low level of integration of the domestic services market with the global market, as evidenced by small share of services trade to GDP. It also reflects level of protection, which seems to be much higher in services than in other sectors of the economy.

Within industry, variability is higher in manufacturing than other sub-sectors in the group, and lowest in the construction subsector. This again, reflects effects of increased exposure to global competition and potential job losses associated with it especially in the less sophisticated manufacturing sector. The construction sector is somewhat cushioned by government and benefits from government projects (e.g. infrastructure projects – roads, bridges, buildings, etc funded through government budget).

4.5 Estimation results

Table 10 presents the results of estimating equation (7) for agriculture, industry and services. Overall, with R-squared value of 0.779, this regression equation explains over three-quarter of the changes in employment for Myanmar. The results indicate overall growth in employment, most of which is explained by growth in competitiveness of Myanmar export sector represented by index of comparative advantage (RCA). The coefficient for RCA is positive and statistically different from 0 for agriculture and industry, suggesting that employment rose in response to increased competitiveness of the export-oriented sectors. For services the coefficient is negative and statistically

significant at 1% level, indicating a decrease in the sector employment share in response to liberalization of services trade.

Table 10. OLS estimation, dependent variable: sector share of employment

Variables	Agric (1)	Industry (2)	Services (3)	All Sectors (4)
Constant	0.834** (0.336)	0.647 (0.363)	0.09 (0.463)	7.649** (3.498)
GDP share/worker	0.914*** (0.042)	0.214* (0.258)	0.35* (0.951)	0.384* (0.362)
RCA–Revealed comparative adv	0.898*** (0.042)	0.159* (0.192)	- 0.918*** (0.111)	1.119*** (0.362)
Tariff	0.876* (2.211)	-0.805* (0.416)	1.197* (2.211)	-0.420* (0.416)
Initial condition, industry	0.819* (2.372)	0.368* (0.130)	0.292* (0.042)	-0.246 (2.022)
Observations	27	27	27	32
R ²	0.940	0.359	0.951	0.779
Adjusted R ²	0.880	0.336	0.939	0.668

Note: OLS estimates. The dependent variable is the share of the workforce employed in a sector in a given year. GDP share by sector per worker is calculated by the total GDP (current US\$) divided by GDP share per sector origin, which is then divided in number of workers per sector. All variables are in natural logarithm. Standard errors are reported in parentheses. Coefficients and standard errors robust to heteroskedasticity; and 1, 5, and 10 percent levels of significance are denoted by ***, ** and *, respectively.

The GDP share per worker explains about one-quarter growth in sector share of employment, overall. Coefficient for GDP share/worker is positive and statistically different from 0, suggesting a growth in sector employment share as output per worker increases. For tariff, the coefficient is negative and statistically significant (overall—when all the sectors are considered—and for industry in particular), suggesting an overall increase in employment in response to tariff reduction. However, tariff reduction may have a negative impact on agriculture—coefficient for agriculture is positive and statistically different from 0. Overall, growth in sector competitiveness (RCA) is particularly strong predictor of employment share across sectors. Another important result that emerge relate to industry initial conditions, which show a statistically significant relationship with growth in sector employment share. Specifically, sectors such as agriculture with higher share informal activities and sectors with low share of imports such as services experienced greater growth in employment share—estimates are statistically different from 0 and implied magnitudes are large.

5 Conclusions and implications for policy

This paper investigates employment responses to trade liberalisation in a developing economy, Myanmar. Three major conclusions emerge from the findings. Tariff reduction (contrary to the common view), productivity (GDP share per worker) and sector competitiveness in the export market have positive impact on employment at sector level. Overall, sector competitiveness in the export market is particularly strong predictor of employment as evidenced by estimates for revealed comparative advantage (RCA) index, which are positive and statistically significant, with implied magnitudes that are larger than for any other variables. Productivity of workers have a positive relationship with sector level employment as evidenced by coefficients of GDP per worker, which are both positive and statistically significant across industry sectors (with implied magnitude higher for sectors that have experienced higher growth in employment share). Second, initial industry conditions influences future employment at sector level.

These conclusions have important implications for policy. Policy reforms need to be correctly tailored to raising productivity of labour force that can create and take advantage of trade opportunities, as well as raising sector competitiveness in export markets. Policies to spur investment, particularly in innovation at firm level would have long lasting effects on job creation.

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